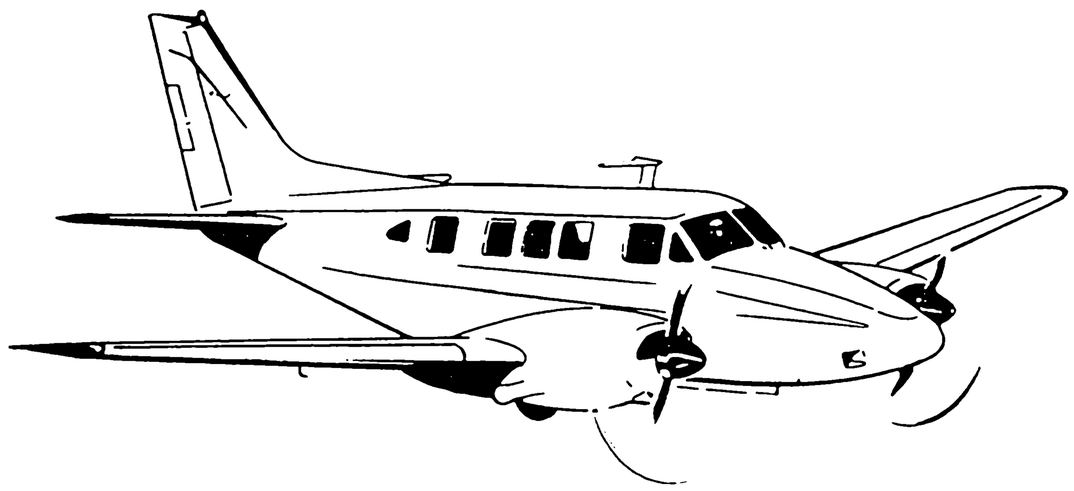
FAA APPROVED

Airplane Flight Manual



BEECH

Beechcraft®

Queen Air 65- B80

NOTE:
THE FAA APPROVED FLIGHT MANUAL MUST BE KEPT WITHIN REACH OF THE PILOT DURING ALL FLIGHT OPERATIONS

Mfr's Serial No. _____

Registration No. _____

FAA Approved by N.H. Schuetz
for CHESTER A. REMBLESKE
BEECH AIRCRAFT CORPORATION
DOA CE-2

Date of Approval October 5, 1972

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FAA Approved, based on CAR 3, Normal Category

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dated 5/30/75

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Airplane Flight Manual Supplements

LOG OF REVISIONS

BEECHCRAFT Queen Air 65-B80 Airplane Flight Manual, P/N 50-590211-1

Revision Number	Part Number	Applicable Supplement	Date
	50-590211-5	BEECHCRAFT H14 Autopilot	October 5, 1972
	50-590211-7	Electrothermal Propeller Deice System	October 5, 1972
	50-590211-9	Simplified Induction System	October 5, 1972
	50-590211-11	Flight with Cabin Door Removed	October 5, 1972
	50-590211-13	Cargo Door	October 5, 1972
	50-590211-15	BEECHCRAFT Air Conditioner	October 5, 1972
	50-590211-17	Cargo Pod	October 5, 1972
	50-590211-19	Flight in Known Icing Conditions	October 5, 1972
1	50-590211-21	Area Navigation System, King KNC-610	March 21, 1975
2	50-590211-25	Nickel-Cadmium Battery Charge Current Detector	October 1, 1973
	131297	Engine Fire Detector System (Kit 80-9007-1) and/or Engine Fire Extinguisher System (Kit 80-9008-1)	November 29, 1974
	50-590211-31	Inspection of Engine Compartment and Wheel Well Flammable Fluid Lines and Fittings	May 29, 1978
	50-590211-33	Beech Continuous Sensing Fire Detection System	June 8, 1978

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Revised: June 8, 1978

Airplane Flight Manual Supplements

LOG OF REVISIONS

Queen Air 65-88 Airplane Flight Manual, P/N 65-001113-7B

Revision Number	Part Number	Applicable Supplement	Date
1	65-001113-13	BEECHCRAFT H-14 Autopilot	May 4, 1973
	FMS580	Woodward Electric Propeller Synchronizer	November 5, 1965
2	50-590211-25	Nickel-Cadmium Battery Charge Current Detector	October 1, 1973
	131297	Engine Fire Detector System (Kit 80-9007-1) and/or Engine Fire Extinguisher System (Kit 80-9008-1)	November 29, 1974
	131344	Cabin Door Warning Placard and Emergency Procedures for Illumination of Cabin Door Warning Light	November 14, 1975
	50-590211-31	Inspection of Engine Compartment and Wheel Well Flammable Fluid Lines and Fittings	May 29, 1978
	50-590211-33	Beech Continuous Sensing Fire Detection System	June 8, 1978

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Revised: June 8, 1978

LOG OF REVISIONS

Queen Air 65-B80 Airplane Flight Manual, P/N 50-590211-1

Revision Number	Revised Pages	Description of Revision
A-3	Title	Remove One Superseded Part Number
A-3	ii	Revise Table of Contents
A-3	1-1	Correct Serialization on Fuel Table
A-3	1-2	Correct S.I. Part Number
A-3	1-7	Add Placard for Emergency Exit Hatch Release Cover
A-3	1-8	Rearrange Material
A-3	2-4	Revise After Starting and Taxi Procedures
A-3	2-7	Revise Before Landing Procedures
A-3	2-10	Change Oxygen Information
A-3	2-11	Change Oxygen Information
A-3	3-5	Rearrange Material
A-3	3-6	Clarify Crossfeed Procedures and Rearrange Material
A-3	3-7	Clarify Simulating Single Engine Zero Thrust Procedures and Add Spin Recovery Information

for Chester A. Rembleske
Beech Aircraft Corporation
DOA CE-2

98-34404A

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LOG OF REVISIONS

Queen Air 65-B80 Airplane Flight Manual, P/N 50-590211-1

Revision Number	Revised Pages	Description of Revision
A-2	1-2	Correcting Instrument Pressure Markings

for K. V. Schmetz
Chester A. Rembleske
Beech Aircraft Corporation
DOA CE-2

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FAA Approved
Revised: March 1, 1974

LOG OF REVISIONS

Queen Air 65-B80 Airplane Flight Manual, P/N 50-590211-1

Revision Number	Revised Pages	Description of Revision
A-1	i	Add Battery Condition Check to Table of Contents
A-1	2-6	Add Battery Check to Cruise
A-1	2-7	Add Battery Check to Shutdown
A-1	2-12	Add Battery Condition Check

for Chester A. Rembleske
Beech Aircraft Corporation
DOA CE-2

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LOG OF REVISIONS

Queen Air 65 - B80 Airplane Flight Manual, P/N 50-590211-1

Revision Number	Revised Pages	Description of Revision	FAA Approved & Date
A	Title	Original	
A	i and ii	Original	
A	1-1 through 1-8	Original	
A	2-1 through 2-11	Original	
A	3-1 through 3-6	Original	
A	4-1 through 4-16	Original	

R. H. Schuetz
for Chester A. Rembleske
Beech Aircraft Corporation
DOA CE-2 11/28/72

98-34404

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SECTION I

LIMITATIONS

All airspeeds quoted in this section are Calibrated Airspeeds (CAS).

This airplane is approved for VFR Day and Night, IFR Day and Night, and Icing Conditions as defined herein.

Observance of the limitations listed in Section I is mandatory.

ENGINE

The following limitations are to be observed in the operation of this airplane equipped with two Lycoming IGSO-540-A1A or IGSO-540-A1D engines.

MAXIMUM POWER

Take-Off (limit, 5 minutes) . .	. 380 hp at 3400 rpm
Continuous Operation . . .	. 360 hp at 3200 rpm

GENERATOR LIMITS (LD-352 and after)

Maximum in flight rating, ~~150~~ 200 amperes (1.0 load). Maximum ground rating, 100 amperes (.6 load) at 1300 rpm.

FUEL

100/130 (Green) grade aviation gasoline, minimum.

	STANDARD SYSTEM		OPTIONAL SYSTEM	
	Capacity	Usable	Capacity	Usable
LD 270 through LD279	216 gal	214 gal	266 gal	264 gal
LD 280 through LD 467	219 gal	214 gal	269 gal	264 gal
LD 270 through LD 467 which have complied with SI 0539-281	214 gal	200 gal	268 gal	254 gal
LD 468 and after	214 gal	200 gal	268 gal	254 gal

LD-280 and after (after compliance with S.I. 0539-281)

Do not take off if fuel quantity gages indicate in yellow arc or with less than 25 gallons (standard fuel system) or 32 gallons (optional fuel system) of fuel in each wing system.

LD-270 through LD-279 (after compliance with S.I. 0539-281)

Do not take off if INBOARD fuel quantity gages indicate in yellow arc or with less than 15 gallons of fuel in each INBOARD tank.

LD-270 through LD-279

Use INBD tanks for Take-Off and Landing.

Use OUTBD tanks for Level Flight only.

PROPELLERS

Two Hartzell full-feathering, constant speed, three-blade propellers with Model 10151-8R or 10151B-8R blades and HC-B3Z30-2B hubs. Blade angle range measured at 30 in. station: high, 86.5° to 87.5°; low 18° to 18.5°. Propeller diameter, 93 inches.

INSTRUMENT MARKINGS

Oil Temperature

Caution (Yellow Radial)	100°F (38°C)
Normal (Green Arc)	100° to 235°F (38° to 113°C)
Maximum (Red Radial)	235°F (113°C)

Oil Pressure

Minimum (Red Radial)	25 psi
Normal Range (Green Arc)	55 to 85 psi
Maximum (Red Radial)	85 psi

Fuel Pressure

Minimum (Red Radial)	17 psi
Normal (Green Arc)	20 to 28 psi
Maximum (Red Radial)	35 psi

Cylinder Head Temperature

Normal Operating Range (Green Arc)	250° to 450°F (121° to 232°C)
Maximum (Red Radial)	475°F (246°C)

Induction Air Temperature

Maximum (Red Radial)	165°F (74°C)

Tachometer

Engine Warm-Up	1000 to 1500 rpm
Normal Operation (Green Arc)	2400 to 3200 rpm
Caution Area (Yellow Arc)	3200 to 3400 rpm
Maximum (Red Radial)	3400 rpm

NOTE

Propeller feathering system is actuated at approximately 2325 rpm.

Manifold Pressure

Normal Operating Range (Green Arc)	14 to 45 in. Hg
Caution Range (Yellow Arc)	45 to 47 in. Hg
Maximum Sea Level (Red Radial)	47 in. Hg

Instrument Pressure (LD-362 through LD-446)

Caution (Yellow Arc)	2.5 to 3.5 in. Hg
Normal (Green Arc)	3.5 to 5.5 in. Hg
Caution (Yellow Arc)	5.5 to 6.5 in. Hg

Instrument Pressure (LD-447 and after)

Normal (Green Arc)	4.3 to 5.9 in. Hg

Instrument Suction (LD-270 through LD-361)

Red Radial	4.50 in. Hg
Yellow Arc	4.50 to 5.8 in. Hg
Green Arc	5.8 to 6.5 in. Hg
Red Radial	6.5 in. Hg

Deice Pressure

Minimum (Red Radial)	9 psi
Normal Operating (Green Arc)	9 psi to 20 psi
Maximum (Red Radial)	20 psi

Fuel Quantity Indicator (LD 280 and after)

No Take-off (Yellow Arc) *(after compliance with S.I. 0539-281)*	E to 1/4 full

INBOARD Fuel Quantity Indicator (LD270 through LD279)

No Take-off (Yellow Arc) *(after compliance with S.I. 0539-281)*	E to 3/8 full

AIRSPEED LIMITATIONS

Never Exceed (Glide or Dive, Smooth Air)(Red Radial)	. 270 mph/234 kts
Caution Range (Yellow Arc)	. 205 to 270 mph/178 to 235 kts
Normal Operating Range (Green Arc)	99 to 205 mph/86 to 178 kts
Flap Extension Range (White Arc)	82 to 150 mph/71 to 130 kts
Maximum Landing Gear Operating Speed	
Extension	. 180 mph/156 kts
Retraction	. 150 mph/130 kts
Maximum Landing Gear Extended Speed	. 180 mph/156 kts
Maximum Design Maneuvering Speed	. . 195 mph/169 kts
Maximum Structural Cruising Speed	. 205 mph/178 kts
Turbulent Air Penetration Speed	. 195 mph/169 kts

MANEUVERS

This is a normal category aircraft. Acrobatic maneuvers, including spins, are prohibited.

Slips are limited to a maximum of one ball width on turn coordinator.

FLIGHT LOAD FACTORS

At the design gross weight of 8800 lbs: Maneuver - positive, 3.70 G, negative, 1.60 G. Gust - positive, 2.97 G; negative .97G.

CAUTION

Use controls with caution above 195 mph (169 knots) and with extreme caution above 205 mph (178 knots):

MAXIMUM WEIGHT

Maximum Take-Off Weight	. 8800 lbs
Maximum Landing Weight	. 8800 lbs

CENTER OF GRAVITY LIMITS (Landing Gear Extended)

Forward Limit: 147.6 inches aft of datum to 7750 lbs with straight line variation to 150.7 inches at 8800 lbs.

Aft Limit: 160.4 inches aft of datum at all weights.

AFT FACING CHAIRS

Only aft facing seats (placarded as such on the leg crossmember) are authorized in the aft facing position. The headrest and seat back of the aft facing seat must be in the fully raised position for take-off and landing.

PLACARDS

On Overhead Panel in Cockpit:

AIRSPEED LIMITATIONS

FLAP EXTENSION (APPROACH)	200 MPH	(174 KNOTS)
FLAP EXTENSION (DOWN)	150 MPH	(130 KNOTS)
MAX GEAR EXTENDED (NOR)	180 MPH	(156 KNOTS)
MAX GEAR RETRACT	150 MPH	(130 KNOTS)
MIN SINGLE ENGINE CONTROL	100 MPH	(87 KNOTS)
MAXIMUM MANEUVERING	195 MPH	(169 KNOTS)

THIS AIRPLANE MUST BE OPERATED AS A NORMAL CATEGORY AIRPLANE IN COMPLIANCE WITH THE OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS, MARKINGS, AND MANUALS.

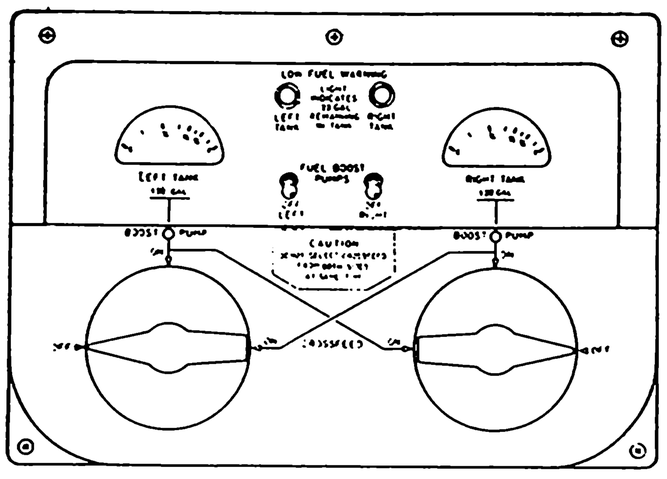
NO ACROBATIC MANEUVERS INCLUDING SPINS APPROVED.

NOTE: This airplane is approved for flight into known "light to moderate" icing conditions when the following equipment is installed and operable: Emergency Static Air Source, Surface Deice System, Propeller Deice or Anti-ice System, Pitot Heat, Heated Stall Warning, Windshield Deice or Anti-ice, Alternate Induction Air, and External Antenna mast capable of withstanding ice loads. The above equipment must be installed at the Beech Aircraft Corporation factory or must be installed as Beech Aircraft Corporation approved kits.

On Fuel Selector Panel:

USE 100-130 OR NEXT HIGHER GRADE FUEL ONLY.

On Fuel Selector Panel:
(LD-280 and after)



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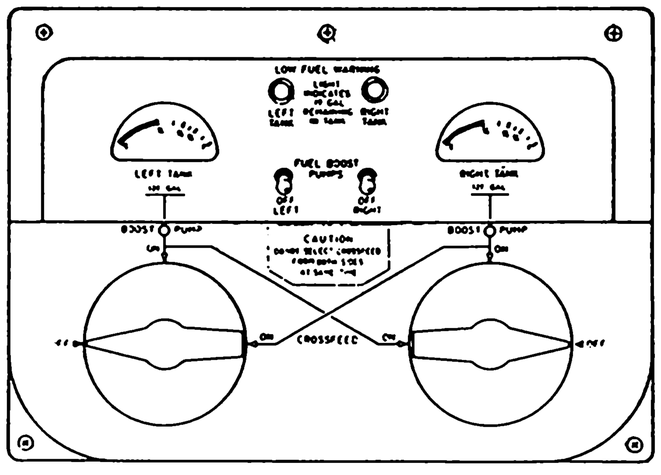
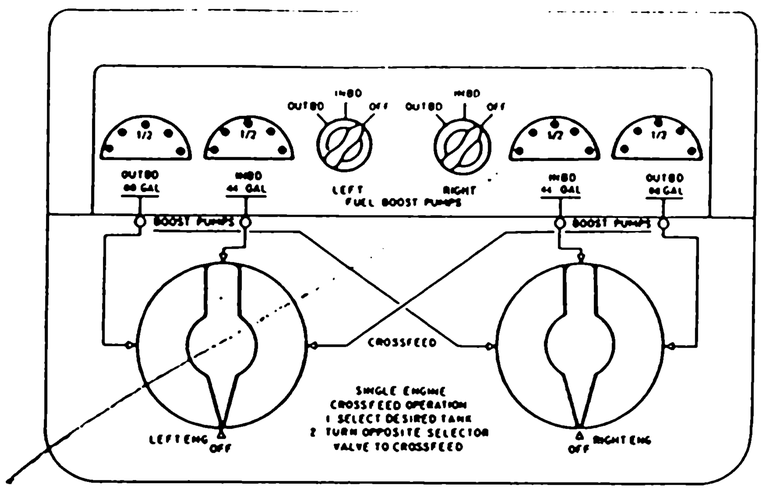
After compliance with S.I. 0539-281

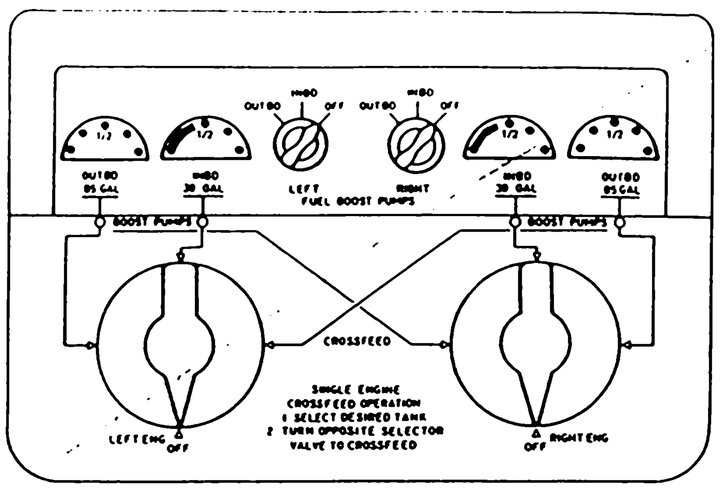


PLACARDS (Continued)

On Fuel Selector Panel:
(LD-270 through LD-279)



or
After compliance with S.I. 0539-281



On Fuel Selector Panel:
(LD-270 through LD-279)

USE INBD TANKS FOR TAKE-OFF AND LANDING

On Fuel Selector Panel:
(LD-270 through LD-279)

USE OUTBD TANKS FOR LEVEL FLIGHT ONLY

On Floor Between Pilot and Copilot:

On Overhead Panel in Cockpit:
(Procedure to be used for fire in flight)

EMERGENCY
ENG. SHUT-DOWN PROCEDURES
1. MIXTURE CONT—IDLE CUT-OFF
2. FUEL SELECTOR—OFF
3. OIL SHUT-OFF HDL—UP & LKD
4. PROP CONTROL—FEATHERED
5. THROTTLE—FULLY OPEN
6. BOTH BOOST PUMPS—OFF
7. MAGNETO SWITCH—OFF
8. ALTNTR/GEN SWITCH—OFF

PLACARDS (Continued)

On Inside of Cockpit Door:

KICK HERE FOR EMERGENCY EVACUATION

On Oxygen Escutcheon in Cabin and on Window Sills in Pilot's Compartment:

WARNING

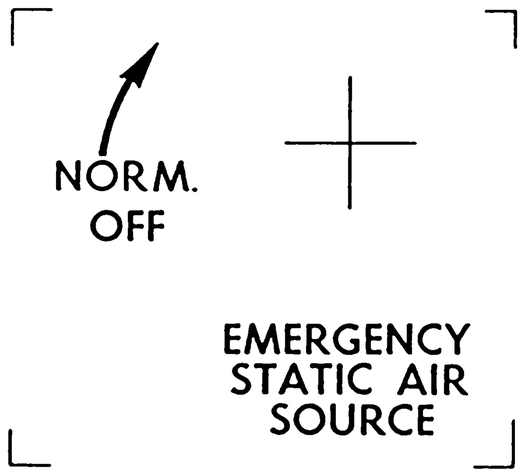
DO NOT SMOKE WHILE OXYGEN IS IN USE HOSE PLUG MUST BE PULLED OUT TO STOP FLOW OF OXYGEN

OR

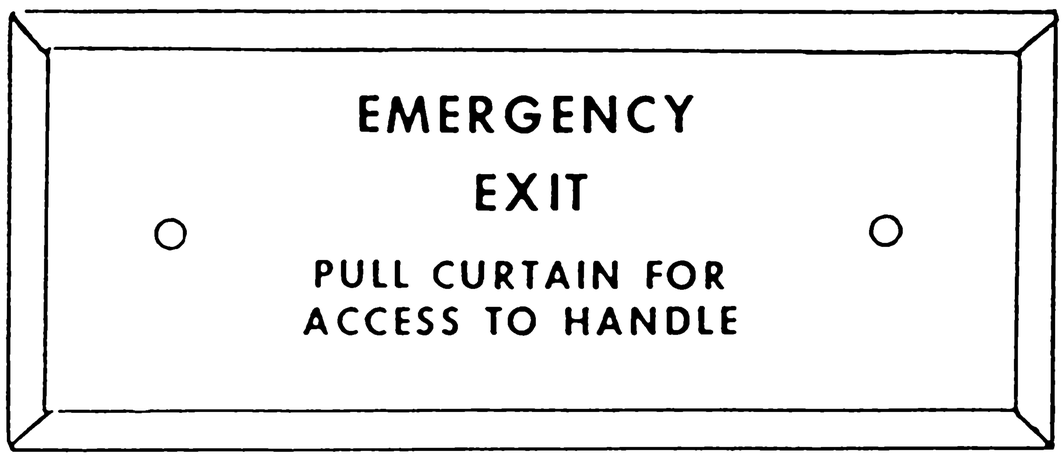
WARNING
DO NOT SMOKE WHILE OXYGEN IS IN USE. PULL CONNECTING PLUG TO STOP OXYGEN FLOW.

Adjacent to the Emergency Static Air Valve:

WARNING
SEE FLIGHT MANUAL EMER PROCEDURES FOR INST CAL ERROR



Above the Curtain at the Emergency Exit Door:



On Emergency Exit Hatch Release Cover (Prior to LD-495):

EMERGENCY
DOOR
RELEASE

OPEN COVER
PUSH BUTTON
AND
PULL HANDLE

On Emergency Exit Hatch Release Cover (Prior to LD-495 and After Compliance With S.I. 0715-108):

EMERGENCY
DOOR
RELEASE

OPEN COVER
PUSH BUTTON
AND
PULL HANDLE

CAUTION:

DO NOT OPEN ESCAPE
HATCH IN FLIGHT

On Emergency Exit Hatch Release Cover (LD-495 and after):

EMERGENCY DOOR RELEASE

CAUTION: DO NOT OPEN ESCAPE
HATCH IN FLIGHT

OPEN COVER, PUSH BUTTON AND
PULL HANDLE

On Aft Facing Chairs:

AFT FACING CHAIR MUST BE IN EXTREME FORWARD POSITION AND RECLINED AGAINST PARTITION DURING TAKEOFF AND LANDING. FRONT SEATS ONLY MAY BE FACED AFT.

OR

ALL AFT FACING SEATS MUST HAVE BACK UPRIGHT AND HEADREST FULLY RAISED DURING TAKEOFF AND LANDING

On Side Window Sill:

FRONT SEATS ONLY MAY BE FACED AFT

PLACARDS (Continued)

Inside Aft Closure Bulkhead on Airplanes with Extended Baggage Area:

NOTICE

THIS COMPARTMENT CAN BE OCCUPIED
DURING TAKEOFF AND LANDING ONLY
IF EQUIPPED WITH A SEAT BELT

COMPARTMENT CAPACITY

TOTAL COMPT CAP. (INCLUDING BAGGAGE AND/OR PASS.
AND/OR EQUIP.) NOT TO EXCEED 450 LB
1. AFT COMPT (FULL PARTITION TO PARTIAL PARTITION) MAX 350 LB*
2. EXTENDED AFT COMPT (PARTIAL PARTITION TO AFT BLKHD) MAX 250 LB
*WHEN AFT COMPT IS LOADED MAX(350 LB), EXTENDED
AFT COMPT IS LIMITED TO 100 LB
SEE WEIGHT AND BALANCE SECTION OF FLIGHT MANUAL
FOR LOADING INSTRUCTIONS

Inside Aft Closure Bulkhead on Airplanes Without Extended Baggage Area:

NOTICE

THIS COMPARTMENT CAN BE OCCUPIED
DURING TAKEOFF AND LANDING ONLY
IF EQUIPPED WITH A SEAT BELT

COMPARTMENT CAPACITY

TOTAL COMPARTMENT CAPACITY (INCLUDING BAGGAGE AND/OR
PASSENGER AND/OR EQUIPMENT) NOT TO EXCEED 350 LB

SEE WEIGHT AND BALANCE SECTION OF FLIGHT MANUAL FOR
LOADING INSTRUCTIONS

3. ELECTROTHERMAL PROPELLER DEICE

CAUTION

Do not operate the propeller deice when the propellers are static.

a. BEFORE TAKE-OFF

(1) Propeller Deice Switch - ON
(2) Propeller Deice Ammeter - CHECK (14 to 18 amps)
(3) To check the automatic timer, watch the propeller deice ammeter closely for at least two minutes. A small momentary needle deflection approximately every 30 seconds shows that the timer is switching and indicates normal system operation.

b. IN FLIGHT

(1) Propeller Deice Switch - ON. The system may be operated continuously in flight and will function automatically until the switch is turned OFF
(2) Relieve propeller imbalance due to ice by increasing rpm briefly and returning to the desired setting. Repeat as necessary

CAUTION

If the propeller deice ammeter indicates abnormal reading, refer to the Emergency Procedures contained in the Airplane Flight Manual Supplement.

4. PROPELLER AND WINDSHIELD ANTI-ICE SYSTEM (FLUID FLOW)

CAUTION

This anti-ice system is designed to PREVENT the formation of ice. Always turn the system ON before entering icing conditions.

a. PREFLIGHT

(1) Check quantity in reservoir
(2) Check slinger ring and lines for obstructions
(3) Check propeller boots for damage

b. IN FLIGHT

(1) Prop Anti-ice Rheostat Switch - AS REQUIRED
(2) Windshield Anti-ice Switch - CYCLE AS REQUIRED
(3) Quantity Gage - MONITOR

CAUTION

System endurance is approximately 1.7 hrs at NORMAL or 35 minutes at maximum with a full reservoir.

5. LEFT PITOT HEAT AND HEATED STALL WARNING

a. Left Pitot Heat Switch - ON when visible moisture is observed

6. RIGHT PITOT HEAT, FUEL VENT HEATERS AND CABIN AIR INLET ANTI-ICE BOOTS

a. Auxiliary Anti-ice Switch - ON when visible moisture is observed.

OXYGEN SYSTEM

WARNING

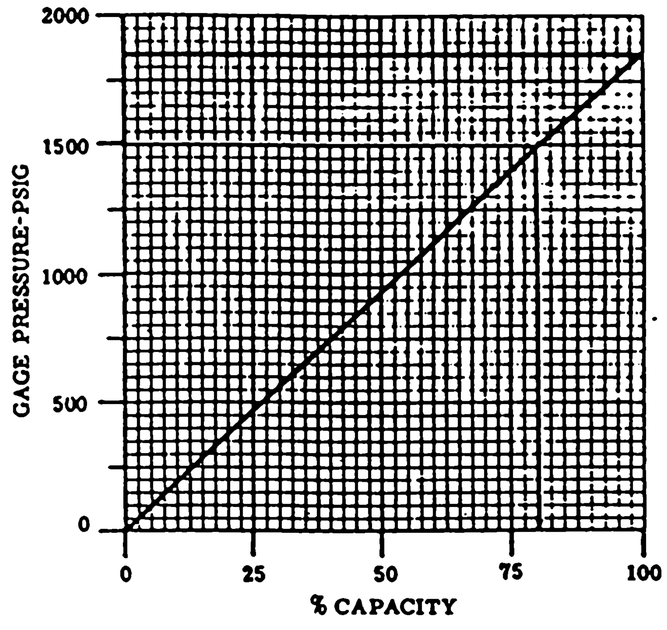
NO SMOKING when using oxygen.

PREFLIGHT

1. Check oxygen pressure gage for pressure reading
2. Determine percent of full system
3. Multiply oxygen duration in minutes by percent of full system

EXAMPLE:

People	5
Gage Pressure	1500 psig
Percent Capacity (from chart)	80%
Cylinder Capacity (full)	48 cu ft
ALTITUDE COMPENSATING SYSTEM	
Altitude (planned flight)	15,000 feet
Duration (full cylinder)	96 minutes
Duration (80% full)	76 minutes
CONTINUOUS FLOW SYSTEM	
Flow Rate of Mask (red plug-in)	3.7 slpm
Duration (full cylinder)	66 minutes
Duration (80% full)	52 minutes



IN FLIGHT

The use of oxygen is recommended to be in accordance with current FAR operating rules.

1. Oxygen Shut-off Valve - OPEN slowly.
2. Mask - Insert fitting, don mask and adjust mask for proper fit.
3. Oxygen Flow Indicator - CHECK that the red plunger lifts from its seat when the hose is inserted into the oxygen coupling.

AFTER USING

1. Discontinue use by unplugging mask from outlet.
2. Control Valve - CLOSED

ALTITUDE COMPENSATING SYSTEM DURATION
(LD-438 and after)

Persons Using	DURATION IN MINUTES AT THE FOLLOWING ALTITUDES													
	12,000			15,000			20,000			25,000			30,000		
	CYLINDER VOLUME ~ Cu Ft													
	22	48	64	22	48	64	22	48	64	22	48	64	22	48	64
1	276	600	798	220	498	660	186	414	546	162	360	480	144	324	432
2	138	300	396	114	246	330	90	204	270	78	180	240	72	162	216
3	90	198	264	72	162	222	60	138	180	54	120	156	48	108	144
4	66	150	198	54	120	162	42	102	132	36	90	120	36	78	108
5	54	120	156	42	96	132	36	78	108	30	72	96	24	60	84
6	42	96	132	38	78	108	31	66	90	24	60	78	24	54	72
7	36	84	114	33	72	90	27	54	78	23	52	66	21	46	60
8	34	72	96	28	60	78	23	48	66	20	45	60	18	40	54
9	30	66	84	25	54	72	20	42	60	18	40	53	16	36	48
10	27	60	78	22	48	66	18	36	54	16	36	48	15	32	43
11	25	54	72	21	45	60	16	35	49	14	33	43	13	29	39
12	21	46	60	18	40	54	15	34	46	14	30	41	13	28	37
13	19	42	57	17	37	50	14	32	43	13	28	38	11	26	34

CONTINUOUS FLOW SYSTEM DURATION
(LD-270 through LD-437)

Oxygen duration is computed for Puritan-Zep oxygen masks which regulate the flow rate to 2.7 Standard Liters Per Minute (SLPM). These masks, identified by an orange color coded plug-in, are approved for altitudes up to 22,000 feet

Cyl Vol Cu Ft	PERSONS USING												
	1	2	3	4	5	6	7	8	9	10	11	12	13
	DURATION IN MINUTES												
22	204	102	66	48	36	30	29	25	22	20	18	17	16
48	462	228	150	114	90	72	66	57	51	46	42	38	35
64	600	300	198	150	120	96	84	72	66	60	54	50	46

OXYGEN DURATION

Oxygen duration is computed for Puritan-Zep oxygen masks which regulate the flow rate to 3.7 Standard Liters Per Minute (SLPM). These masks, identified by a red color coded plug-in, are approved for altitudes up to 30,000 feet.

Cyl Vol Cu Ft	PERSONS USING												
	1	2	3	4	5	6	7	8	9	10	11	12	13
	DURATION IN MINUTES												
22	150	72	48	36	30	24	21	18	16	15	13	12	11
48	336	168	108	84	66	54	48	42	37	33	30	27	25
64	438	216	144	108	84	72	60	54	48	43	39	36	33

NICKEL-CADMIUM BATTERY CONDITION CHECK

It is recommended that one of the following battery condition checks be accomplished for each flight and an engine shut down check be accomplished each week:

DURING CRUISE FLIGHT

1. Battery Switch - OFF (Momentarily)
2. Loadmeter - NOTE CHANGE (Both loadmeters on, either loadmeter may be used)

NOTE

The change in loadmeter indication is the battery charge current and should be less than .025 (no perceivable needle movement) on the 13 AH battery or .050 (only perceivable needle movement) on the 39 AH battery. If the result of the test is not satisfactory, turn the Battery Switch - OFF and proceed to destination. (The battery switch should be turned on for landing in order to avoid electrical spikes caused by power fluctuations.) A Shutdown Battery Condition Check should be made after landing. If the battery indicates unsatisfactory, it should be removed and checked by a qualified Nickel-Cadmium Battery shop.

DURING ENGINE SHUTDOWN

1. One Alternator/Generator - OFF
2. Engine Speed (Engine with Alternator/Generator On) - 1500 RPM (Voltmeter indicating approximately 28 volts)
3. After loadmeter needle stabilizes, momentarily turn the battery switch off and note change in meter indication.

NOTE

The change in loadmeter indication is the battery charge current and should be .025 (no perceivable needle movement) on the 13 AH battery or .050 (only perceivable needle movement) on the 39 AH battery. If the result of the first test is not satisfactory, allow the battery to charge repeating the test each 90 seconds. If the results are not satisfactory within 3 minutes, the battery should be removed and checked by a qualified Nickel-Cadmium Battery Shop.

SECTION III

EMERGENCY PROCEDURES

All airspeeds quoted in this section are indicated airspeeds (IAS)

The following information is presented to enable you to form, in advance, a definite plan of action for coping with the most probable emergency situations which could occur. Where practicable, the emergencies requiring immediate corrective action are treated in check list form for easy reference and familiarization. Other situations, in which more time is usually permitted to decide on and execute a plan of action, are discussed at some length. In order to supply one safe speed for each type of emergency situation the airspeeds presented are derived at 8800 lbs and 5000 ft.

SINGLE-ENGINE OPERATION

Two major factors govern single-engine operation; airspeed and lateral/directional control. The airplane can be safely maneuvered or trimmed for normal hands-off operation and sustained in this configuration by the operative engine AS LONG AS SUFFICIENT AIRSPEED IS MAINTAINED.

SINGLE-ENGINE BEST RATE-OF-CLIMB SPEED, 114 MPH/99 KTS

The single-engine best rate-of-climb speed is the airspeed which delivers the greatest gain in altitude in the shortest possible time with gear up, flaps up, and inoperative propeller feathered.

SINGLE-ENGINE BEST ANGLE-OF-CLIMB SPEED, 110 MPH/96 KTS

The single-engine best angle-of-climb speed is the airspeed which delivers the greatest gain in altitude in the shortest possible horizontal distance with gear up, flaps up, and inoperative propeller feathered.

MINIMUM SINGLE-ENGINE CONTROL SPEED, 98 MPH/85 KTS

The minimum single-engine control speed is the airspeed below which the airplane cannot be controlled laterally and directionally in flight with one engine operating at take-off power and the other engine with its propeller windmilling.

DETERMINING INOPERATIVE ENGINE

The following checks will help determine which engine has failed.

1. DEAD FOOT - DEAD ENGINE. The rudder pressure required to maintain directional control will be on the side of the good engine.

2. THROTTLE. Partially retard the throttle for the engine that is believed to be inoperative; there should be no change in control pressures or in the sound of the engine if the correct throttle has been selected. AT LOW ALTITUDE AND AIRSPEED THIS CHECK MUST BE ACCOMPLISHED WITH EXTREME CAUTION.

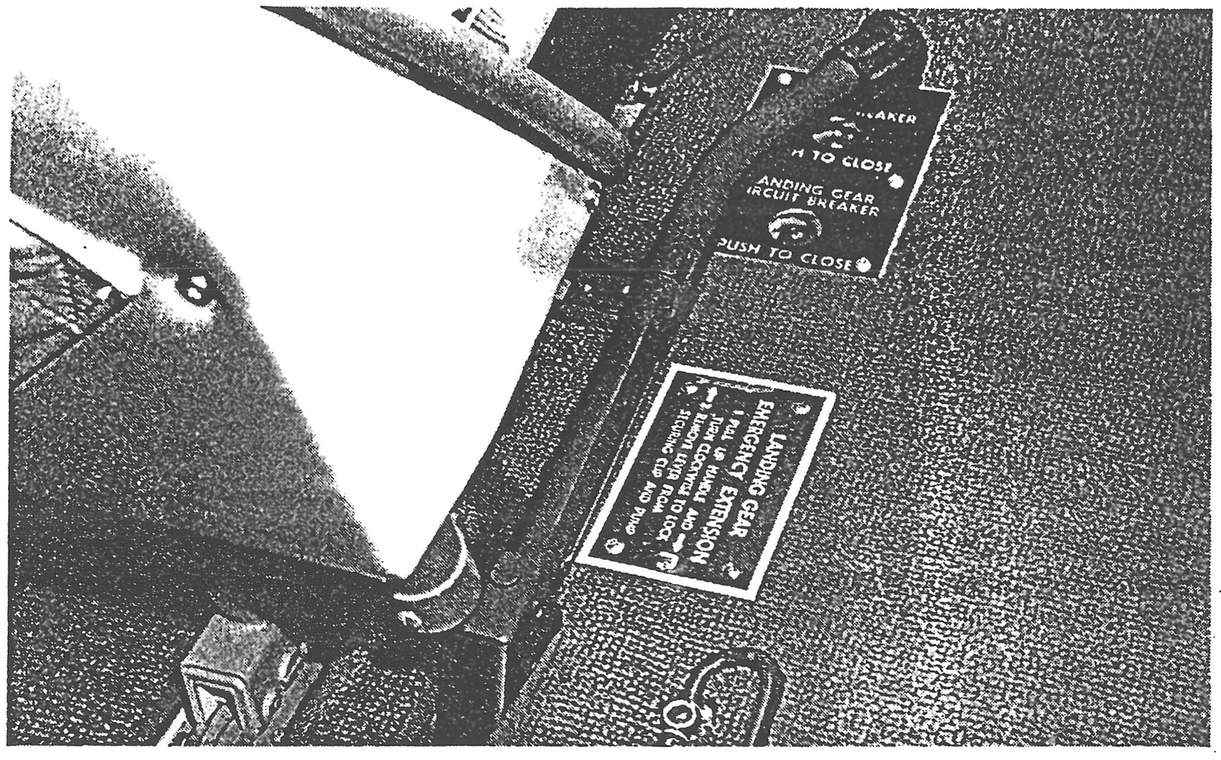
Do not attempt to determine the inoperative engine by means of the tachometer or the manifold pressure. These indicators often indicate near normal readings.

LANDING GEAR MANUAL EXTENSION

1. Airspeed - BELOW 180 MPH/156 KTS (Lower airspeeds make landing gear extension easier)
2. Landing Gear Relay Circuit Breaker (subpanel) - PULL
3. Landing Gear Position Handle - DOWN
4. Emergency Engage Handle - PULL UP AND TURN 50° CLOCKWISE
5. Emergency Extension Handle - PUMP UP AND DOWN UNTIL THREE GREEN LIGHTS ARE ACQUIRED (approximately 50 cycles), then STOW

CAUTION

Do not continue operation after a gear-down indication appears or if resistance is felt. Further movement of the handle could damage the drive mechanism and prevent subsequent electrical gear retraction. THE LANDING GEAR CANNOT BE RETRACTED MANUALLY.



WARNING

After landing do not move any landing gear controls or reset any switches or circuit breakers until aircraft is on jacks as failure may have been in the gear up circuit and gear might retract on ground.

GEAR UP LANDING

The main landing gear wheels protrude from the wheel well in the gear-up configuration and will roll when the aircraft is landed with the gear retracted. The center of gravity, with the gear retracted is aft of the main wheels. The brakes are effective in the gear up position and may be used after touch-down.

Make a normal approach and when the landing spot is assured:

1. Throttle(s) - CLOSED
2. Mixture(s) - IDLE CUT-OFF
3. Fuel Selector Valves - OFF
4. Master (Gang Bar) Switch - OFF
5. Keep wings level during touch-down
6. Evacuate airplane as soon as it stops

EMERGENCY EXIT

The emergency exit door is located at the right rear cabin window with the handle behind the curtain.

1. Open the cover
2. Push the release button
3. Pull handle and push out the door

AIR START

CAUTION

The pilot should determine the reason for the engine failure before attempting an air start.

For the engine to be started:

1. Oil Shutoff Handle - DOWN and LOCKED
2. Mixture - IDLE CUT-OFF
3. Fuel Selector Valve - ON (LD-280 and after); INBOARD, (LD-270 through LD-279)
4. Fuel Boost Pump - ON (LD-280 and after); INBOARD (LD-270 through LD-279)
5. Magneto/Start/Prime Switch - ON
6. Throttle - NORMAL START POSITION (1/2 inch open)
7. Propeller

   a. WITHOUT UNFEATHERING ACCUMULATORS:
      (1) Propeller Control - MOVE FORWARD OF THE FEATHERING DETENT TO MID-RANGE
      (2) Magneto/Start/Prime Switch - ROTATE AND HOLD TO START

   b. WITH UNFEATHERING ACCUMULATORS:
      (1) Propeller Control - FORWARD OF FEATHERING DETENT UNTIL ENGINE ATTAINS 600 RPM; THEN BACK TO DETENT
      (2) Oil Pressure - STABILIZED

NOTE

If propeller does not unfeather or the engine does not turn, return the propeller control to the feather position and secure the engine.

8. Mixture - FULL RICH AT 1000 RPM
9. Throttle - AS NECESSARY TO PREVENT OVERSPEED; warm up at 15 inches Hg manifold pressure
10. Oil Pressure, Oil and Cylinder Head Temperatures - NORMAL INDICATION
11. Power - AS REQUIRED

LANDING GEAR RETRACTION AFTER PRACTICE MANUAL EXTENSION

After a practice manual extension of the landing gear, the gear may be retracted electrically, as follows:

1. Emergency Engage Handle - ROTATE 50° COUNTERCLOCKWISE AND PUSH DOWN
2. Emergency Extension - STOW
3. Landing Gear Relay Circuit Breaker (subpanel) - PUSH IN
4. Landing Gear Handle - UP

STARTING ALTERNATORS IN FLIGHT WITH A DEAD BATTERY

If the alternators are inadvertently left off before take-off and the electrical load discharges the battery below the point needed to excite the alternators, the following procedure will bring the alternators back in service:

1. All Electrical Systems And Avionics - OFF
2. Battery Master Switch(es) - OFF
3. Wait approximately two minutes for the battery to recharge itself
4. Turn on one alternator switch
5. Battery Master Switch(es) - ON
6. Second Alternator Switch - ON

As soon as the alternator starts charging, turn on the other alternator and electrical systems and avionics as required.

CROSSFEED (SINGLE ENGINE OPERATION)

(LD-280 and after)

Left engine inoperative and fuel being supplied from left side.

1. Left Fuel Selector Valve - OFF
2. Left Fuel Boost Pump - ON
3. Right Fuel Selector Valve - CROSSFEED
4. Left Fuel Boost Pump - ON or OFF as required

Right engine inoperative and fuel being supplied from right side.

1. Right Fuel Selector Valve - OFF
2. Right Fuel Boost Pump - ON
3. Left Fuel Selector Valve - CROSSFEED
4. Right Fuel Boost Pump - ON or OFF as required

(LD-270 through LD-279)

Left engine inoperative and fuel being supplied from left side.

1. Left Fuel Selector Valve - INBD or OUTBD
2. Left Fuel Boost Pump - INBD or OUTBD
3. Right Fuel Selector Valve - CROSSFEED
4. Left Fuel Boost Pump - INBD, OUTBD or OFF as required

Right engine inoperative and fuel being supplied from right side.

1. Right Fuel Selector Valve - INBD or OUTBD
2. Right Fuel Boost Pump - INBD or OUTBD
3. Left Fuel Selector Valve - CROSSFEED
4. Right Fuel Boost Pump - INBD, OUTBD, or OFF as required

CAUTION

Continuous operation of Boost Pump may be required during conditions of high engine power, high ambient temperature or high altitude.

EMERGENCY STATIC AIR SOURCE

The EMERGENCY STATIC AIR SOURCE SHOULD BE USED FOR CONDITIONS WHERE THE NORMAL STATIC SOURCE HAS BEEN OBSTRUCTED. When the aircraft has been exposed to moisture and/or icing conditions (especially on the ground), the possibility of obstructed static ports should be considered. Partial obstructions will result in the rate of climb indication being sluggish during a climb or descent. Verification of suspected obstruction is possible by switching to the emergency system and noting a sudden sustained change in rate of climb. This may be accompanied by abnormal indicated airspeed and altitude changes beyond normal calibration differences.

Whenever any obstruction exists in the Normal Static Air System or the system is desired for use:

1. Emergency Static Air Source Valve (red knob) - ROTATE COUNTER CLOCKWISE APPROXIMATELY 9 TURNS TO STOP.
2. For Airspeed Calibration and Altimeter Correction, refer to FAA Performance Section.

CAUTION

Be certain the emergency static air valve is in the NORMAL position when system is not needed.

SIMULATING SINGLE ENGINE ZERO THRUST

When establishing zero thrust operation, use the power setting listed below. By using this power setting to establish zero thrust, you avoid the inherent difficulties of restarting a shut down engine and preserve almost instant power to counter any attendant hazard.

The following procedures should be accomplished by alternating small reductions of propeller and then throttle, until the desired setting has been reached.

1. Propeller Lever - RETARD TO FEATHER DETENT
2. Throttle Lever - SET 16 in. Hg MANIFOLD PRESSURE

NOTE

This setting will approximate Zero Thrust at low altitudes using recommended Single-Engine Climb speeds.

SPINS

If a spin is entered inadvertently:

Immediately move the control column full forward, apply full rudder opposite to the direction of the spin and reduce power on both engines to idle. These three actions should be done as near simultaneously as possible; then continue to hold this control position until rotation stops and then neutralize all controls and execute a smooth pullout. Ailerons should be neutral during recovery.

NOTE

Federal Aviation Administration Regulations do not require spin demonstration of airplanes of this weight; therefore, no spin tests have been conducted. The recovery technique is based on the best available information.

SECTION IV

FAA PERFORMANCE

All airspeeds quoted in this section are Indicated Airspeeds (IAS).

The performance data in this section have been established by flight tests and engineering calculations. Flight tests were conducted under normal operating conditions using average piloting techniques with the airplane and engines in good condition. In using the following data, allowance for actual conditions must be made.

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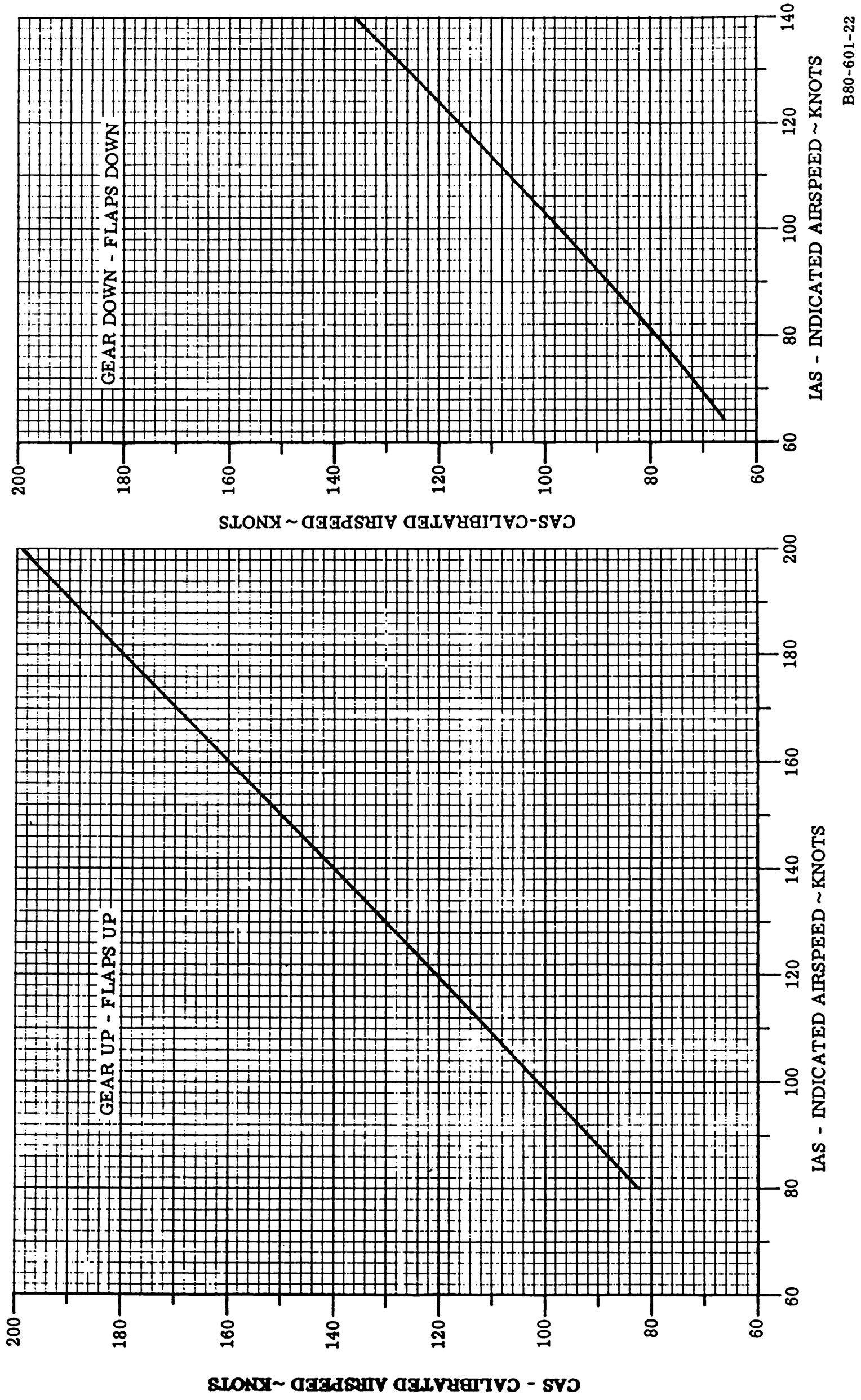
AIRSPEED CALIBRATION – NORMAL SYSTEM

NOTE: INDICATED AIRSPEED ASSUMES ZERO INSTRUMENT ERROR



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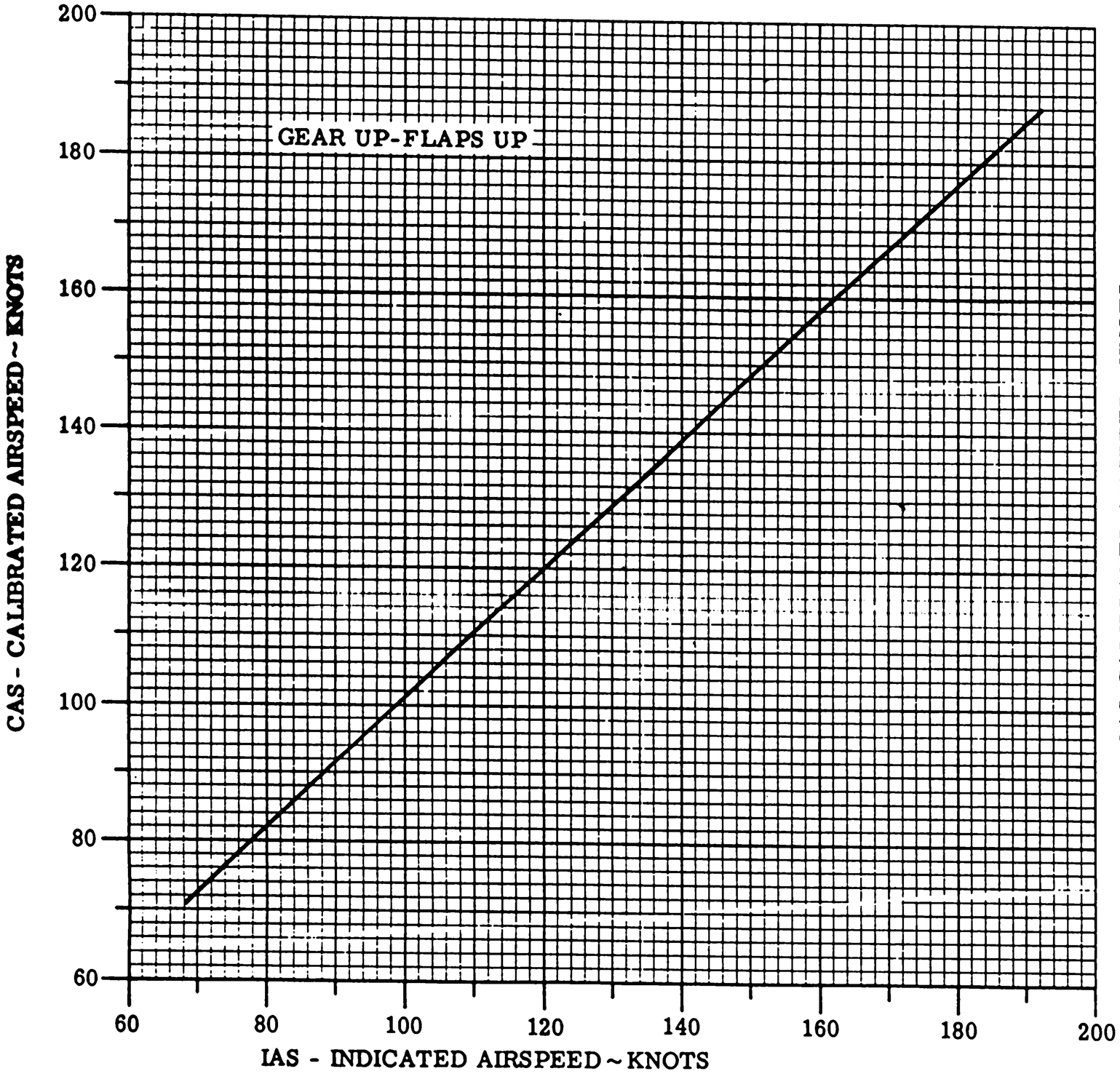
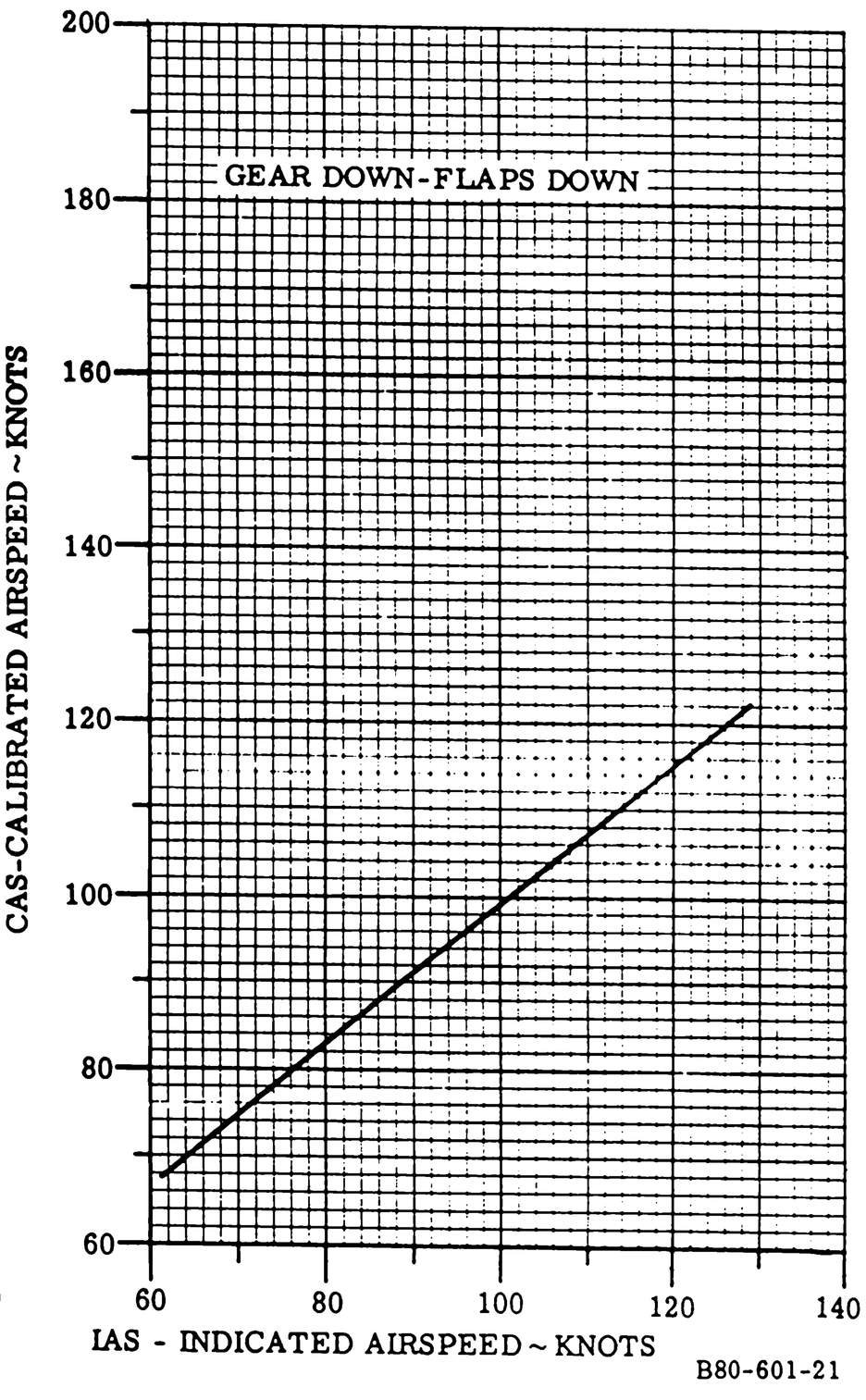
AIRSPEED CALIBRATION – EMERGENCY SYSTEM

NOTE: INDICATED AIRSPEED ASSUMES ZERO INSTRUMENT ERROR





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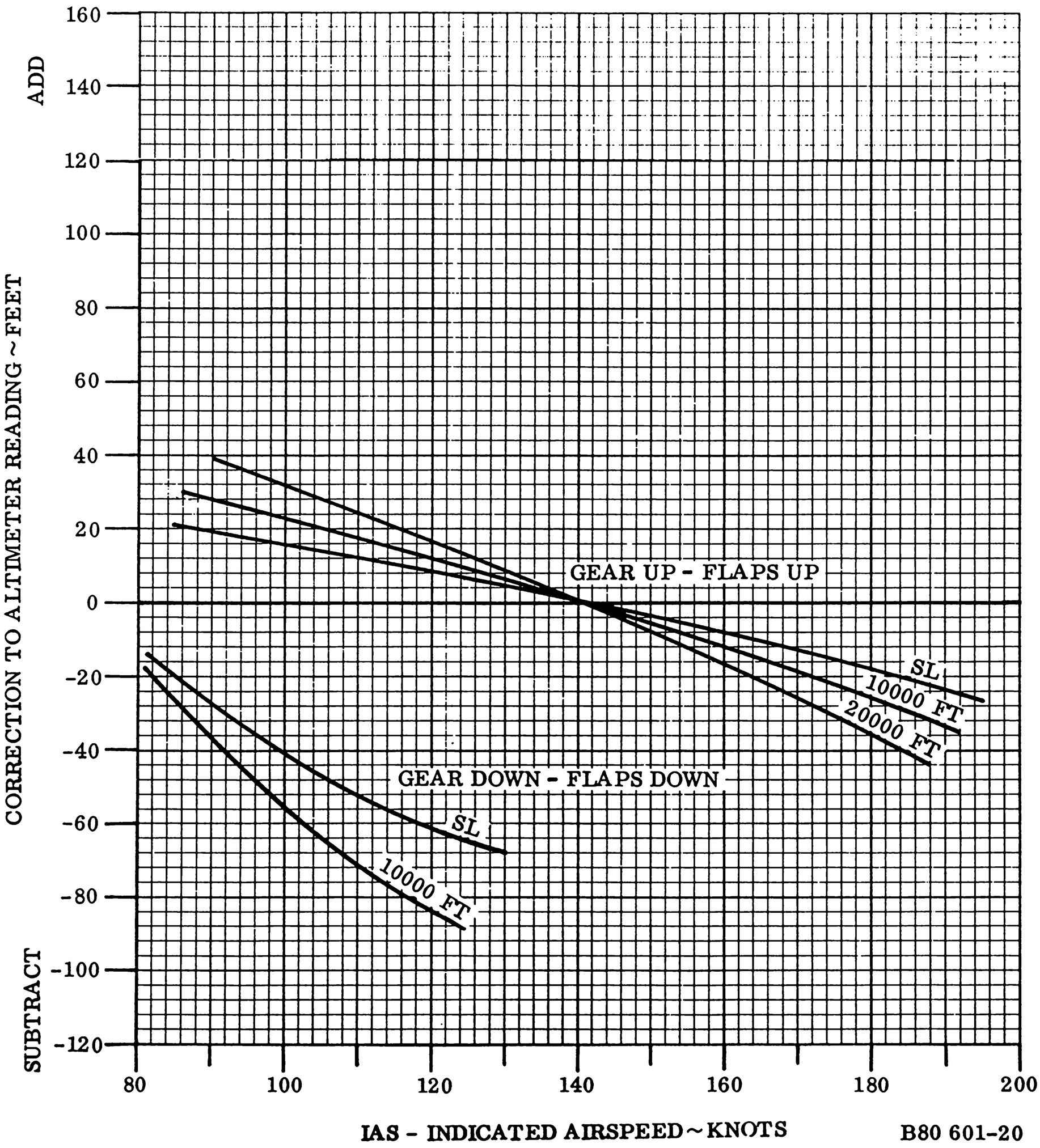
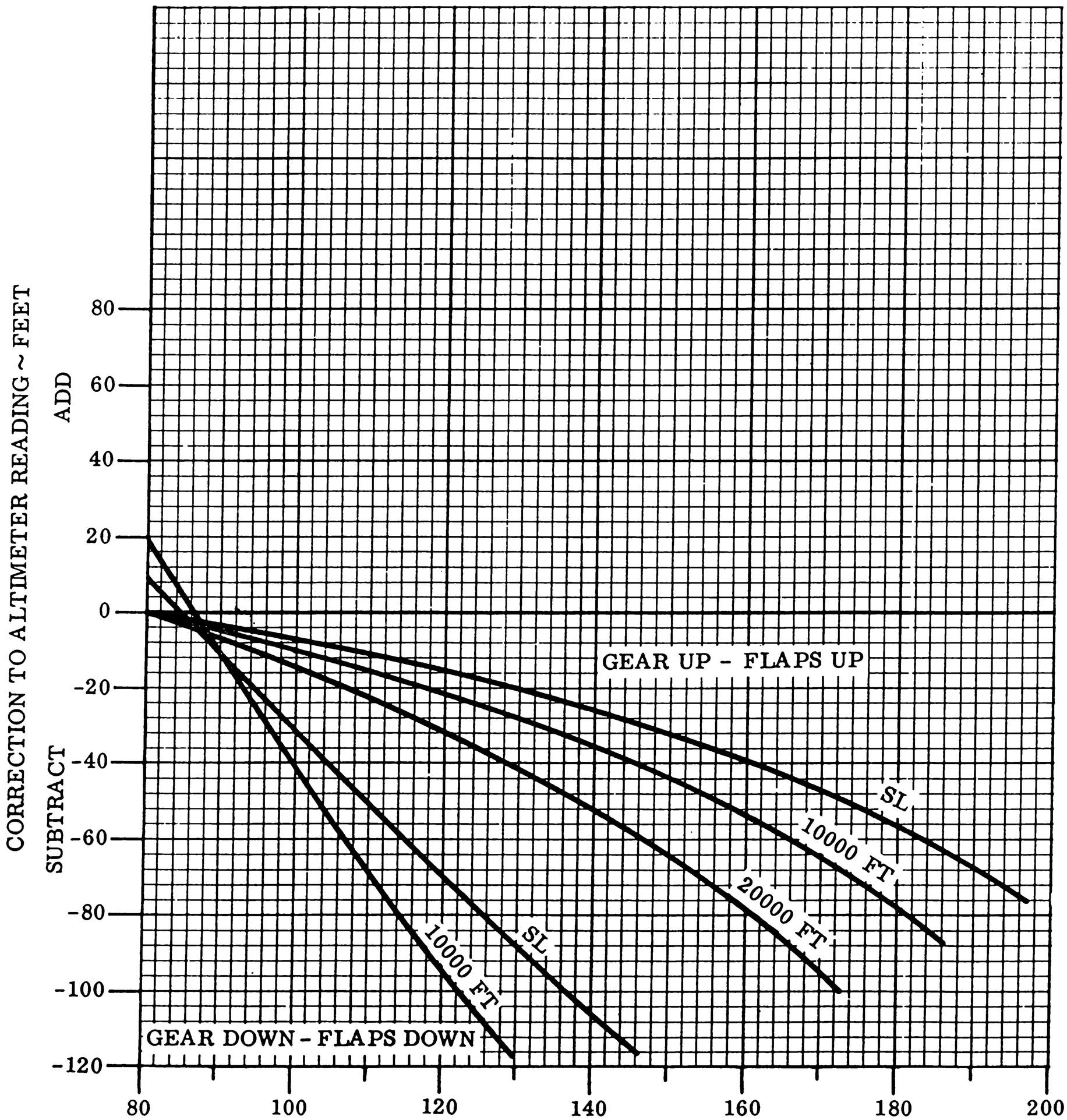
ALTIMETER CORRECTION – NORMAL SYSTEM

NOTE: INDICATED AIRSPEED ASSUMES ZERO INSTRUMENT ERROR



ALTIMETER CORRECTION – EMERGENCY SYSTEM

NOTE: INDICATED AIRSPEED ASSUMES ZERO INSTRUMENT ERROR



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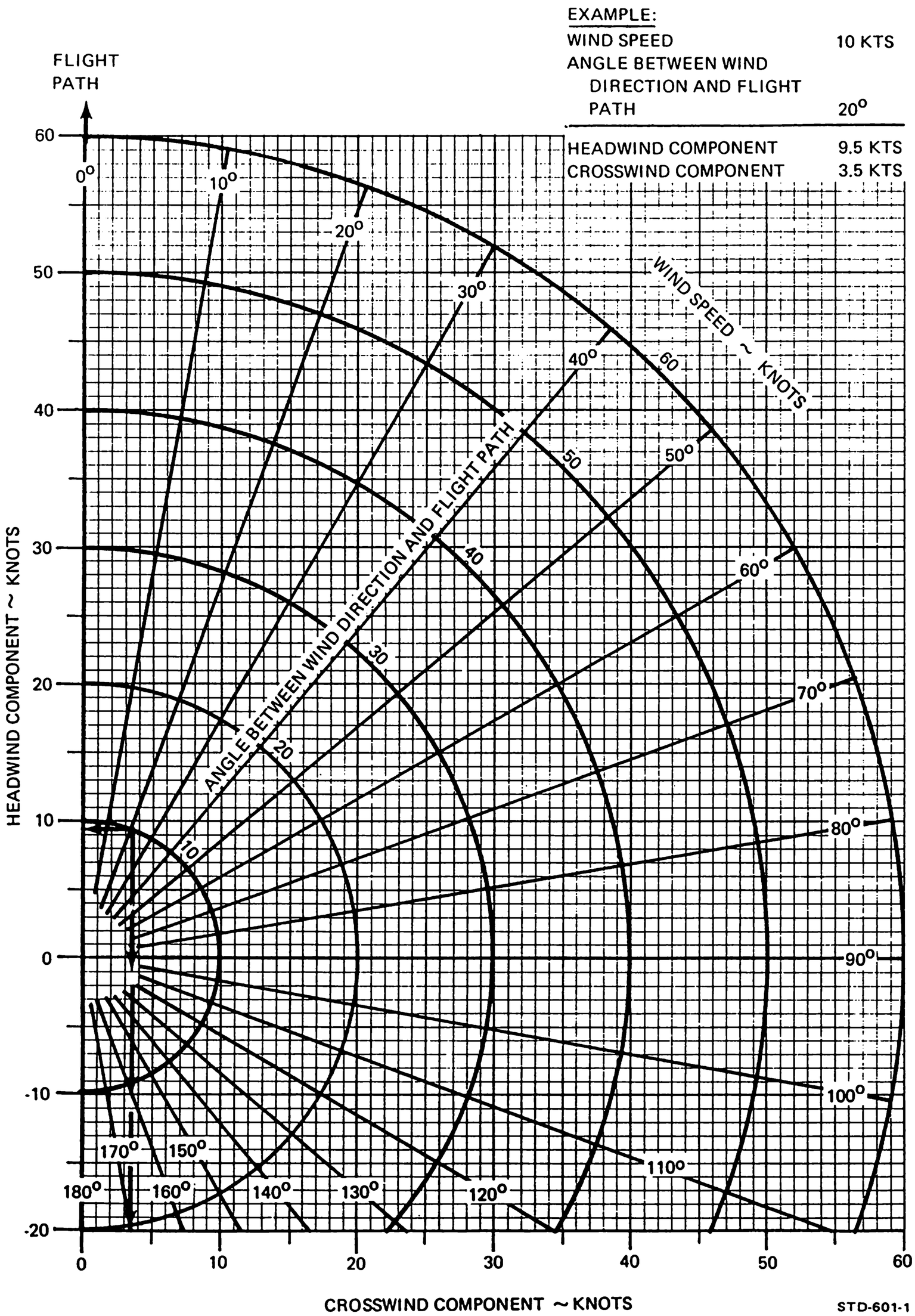
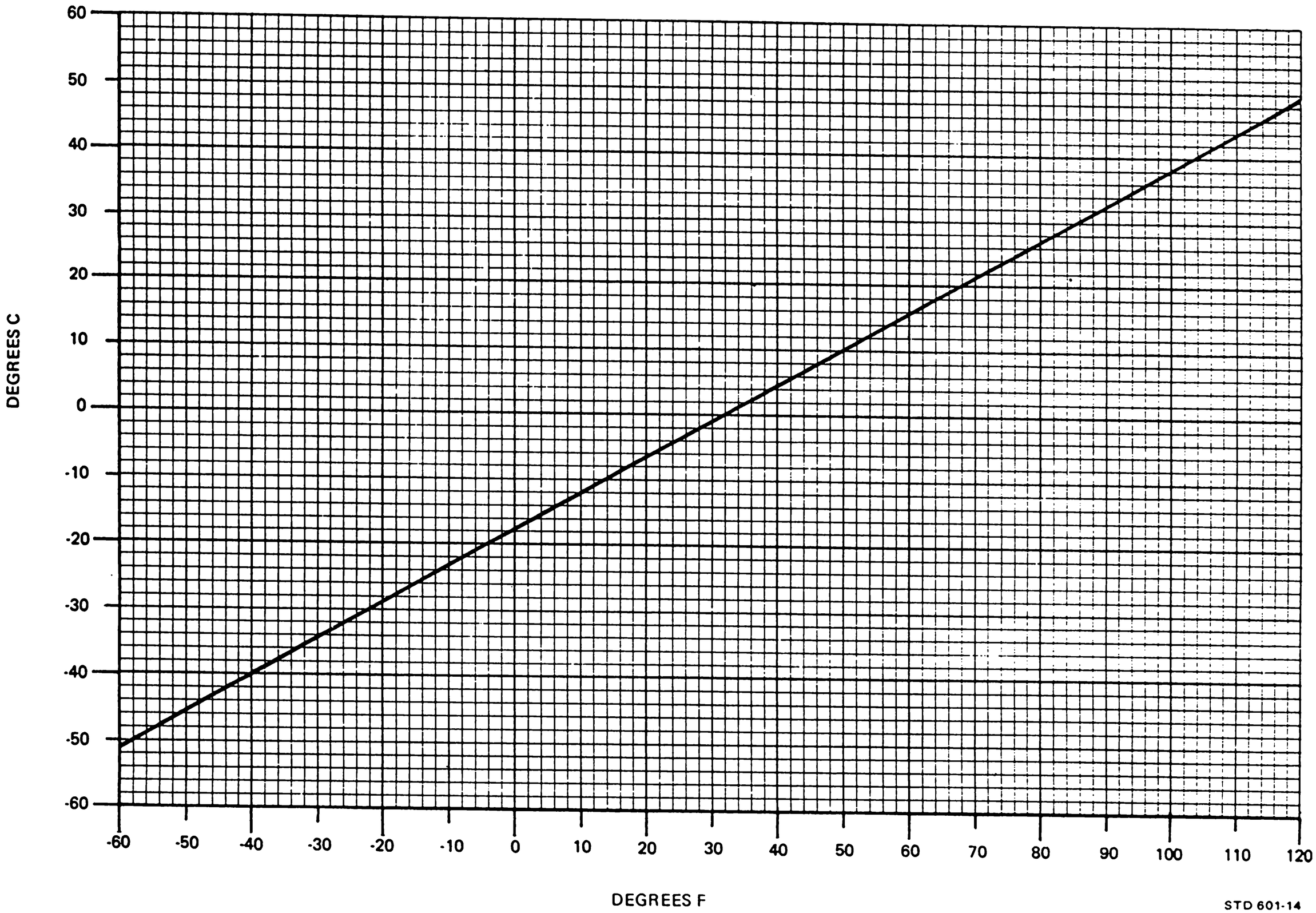
WIND COMPONENTS

Demonstrated Crosswind is 17 kts



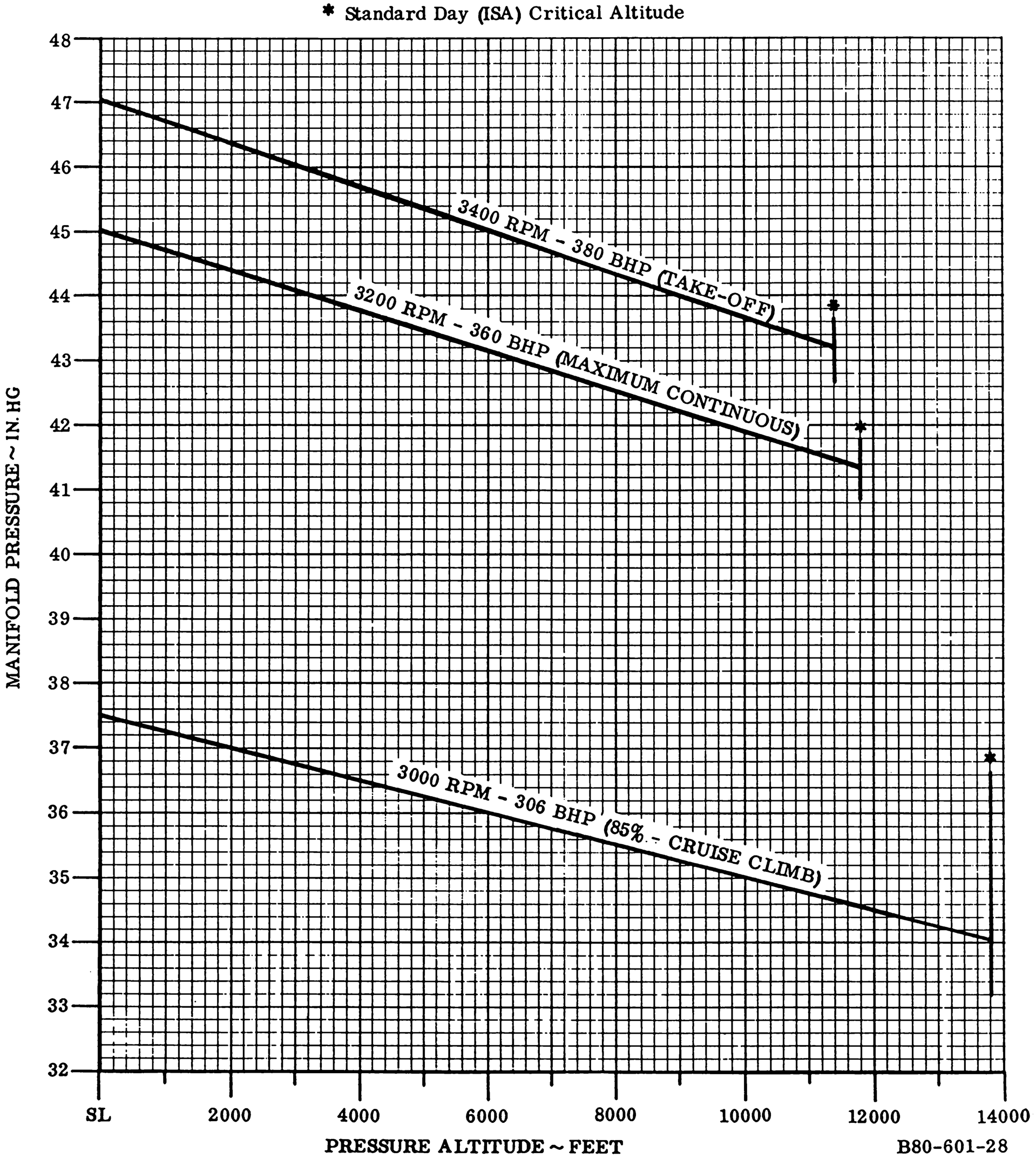
TEMPERATURE CONVERSION
°C vs °F



STD 601-14

LIMITING MANIFOLD PRESSURE

TAKE-OFF AND CLIMB



B80-601-28

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NORMAL TAKE-OFF

ASSOCIATED CONDITIONS:

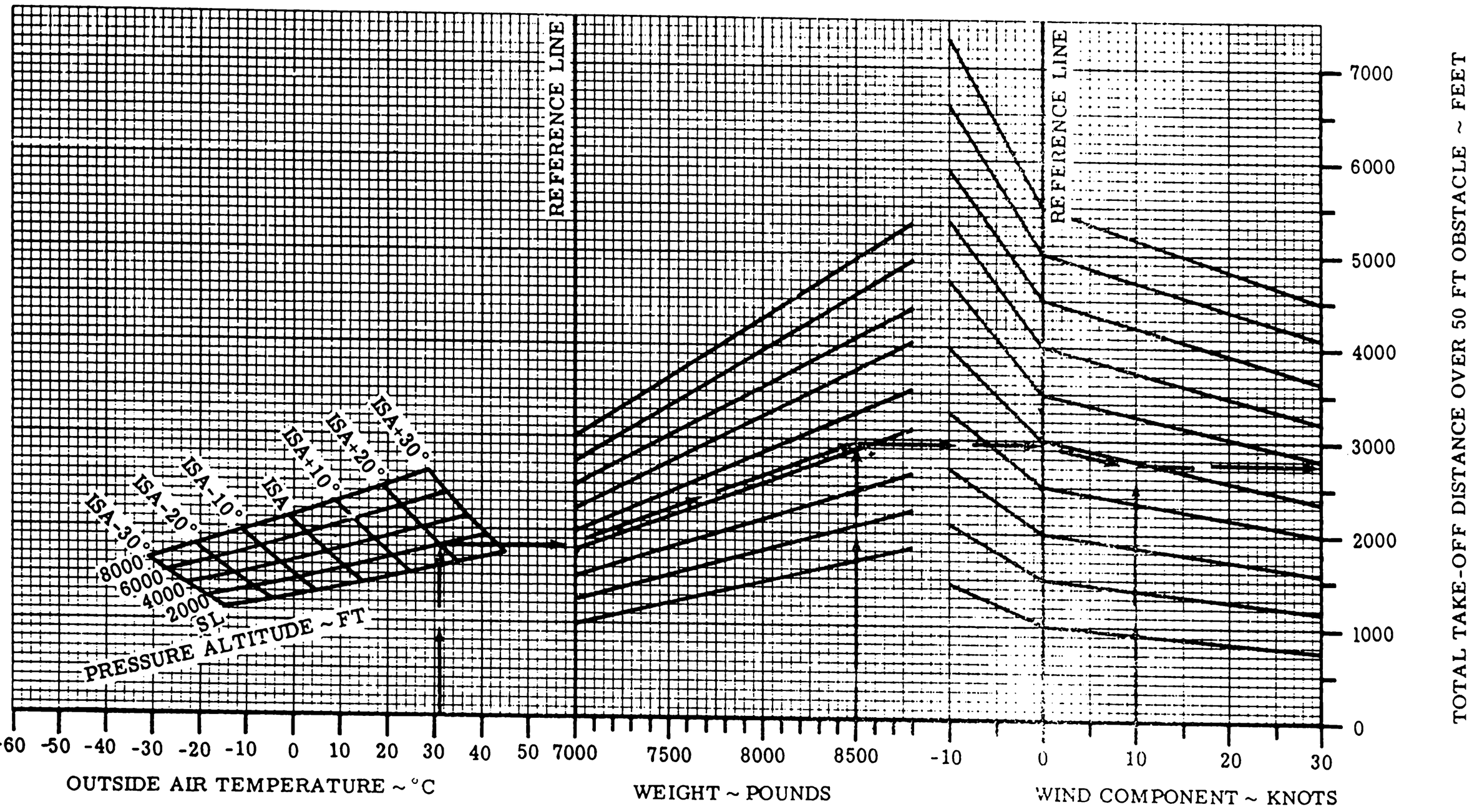
POWER	TAKE-OFF POWER SET BEFORE BRAKE RELEASE
FLAPS	UP
GEAR	RETRACTED AFTER LIFT-OFF
RUNWAY	PAVED, LEVEL, DRY SURFACE
TAKE-OFF SPEED	IAS AS TABULATED

NOTE: GROUND ROLL IS APPROX. 79% OF TOTAL TAKE-OFF DISTANCE OVER 50 FT OBSTACLE.

WEIGHT POUNDS	IAS TAKE-OFF SPEED (ASSUME ZERO INST. ERROR)	
	MPH	KNOTS
8800	108	94
8500	106	92
8000	104	90
7500	100	87
7000	98	85

EXAMPLE:

OAT	31°C
PRESSURE ALTITUDE	2000 FT
TAKE-OFF WEIGHT	8500 LBS
WIND COMPONENT	10 KNOTS
TOTAL TAKE-OFF DISTANCE OVER 50 FT OBSTACLE	2740 FT
GROUND ROLL (79% OF 2740)	2165 FT
IAS TAKE-OFF SPEED	106 MPH 92 KNOTS



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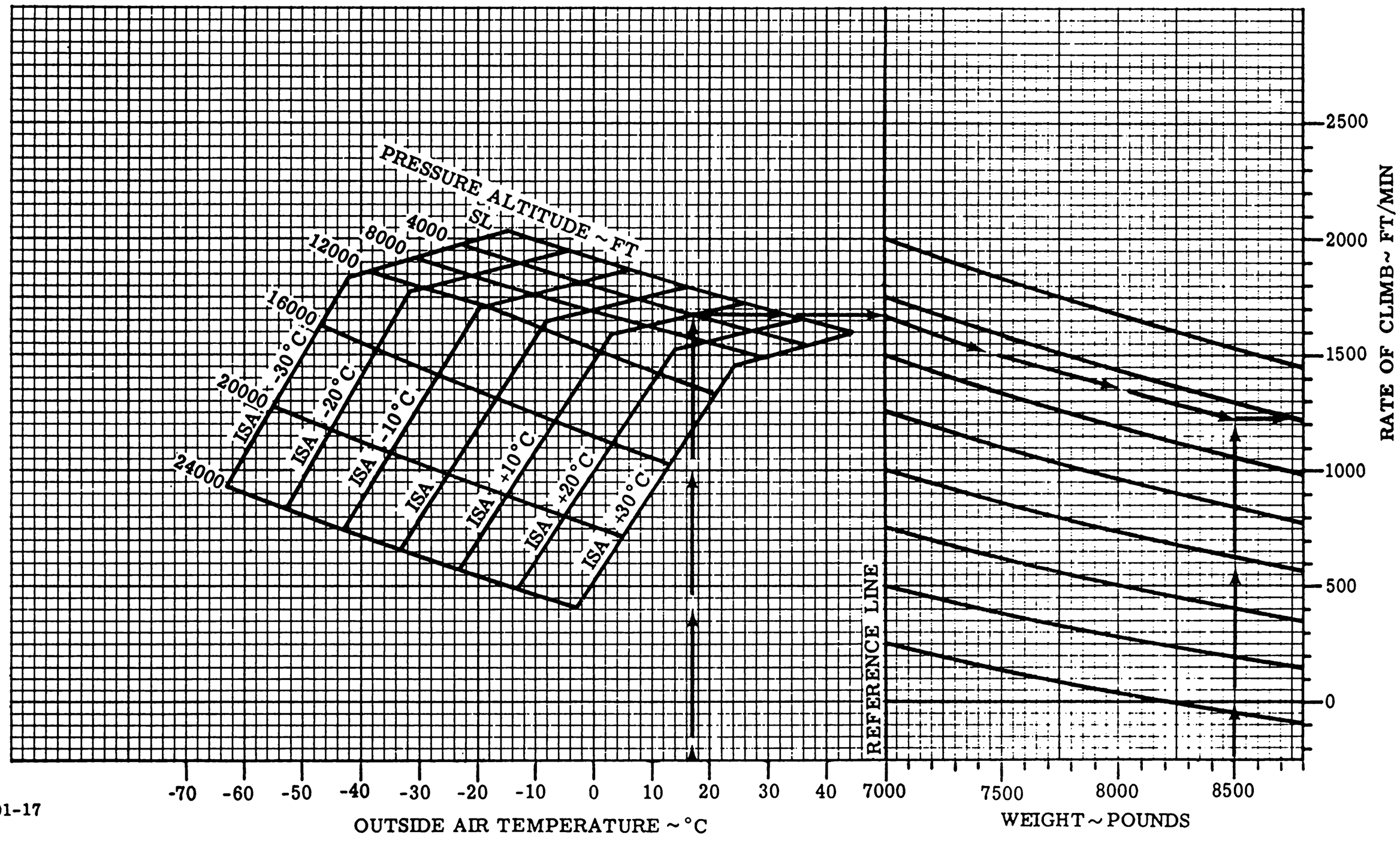
TWO-ENGINE CLIMB

ASSOCIATED CONDITIONS:

POWER	MAXIMUM CONTINUOUS
FLAPS	UP
GEAR	UP
CLIMB SPEED	REFER TO TWO ENGINE BEST RATE-OF-CLIMB SPEEDS GRAPH

EXAMPLE:

OAT	17°C
PRESSURE ALTITUDE	4000 FT
WEIGHT	8500 LBS
RATE-OF-CLIMB	1225 FT/MIN



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TWO ENGINE BEST RATE-OF-CLIMB SPEEDS

STANDARD DAY (ISA)

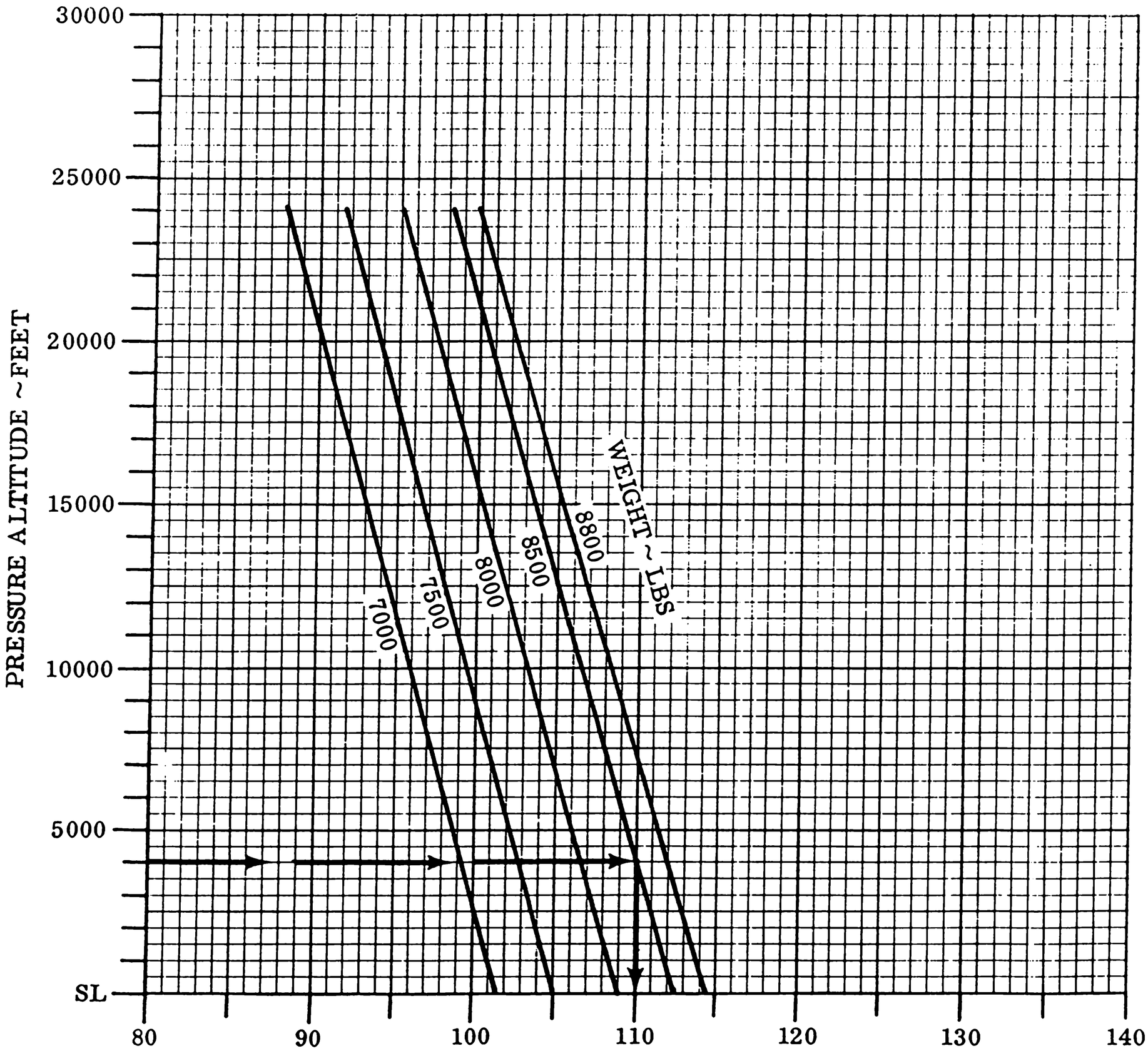
ASSOCIATED CONDITIONS:

POWER	MAXIMUM CONTINUOUS
GEAR	UP
FLAPS	UP

NOTE: IAS ASSUMES ZERO INSTRUMENT ERROR.

EXAMPLE:

PRESSURE ALTITUDE	4000 FT
WEIGHT	8500 LBS
BEST RATE-OF-CLIMB SPEED	110 KIAS



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SINGLE ENGINE CLIMB

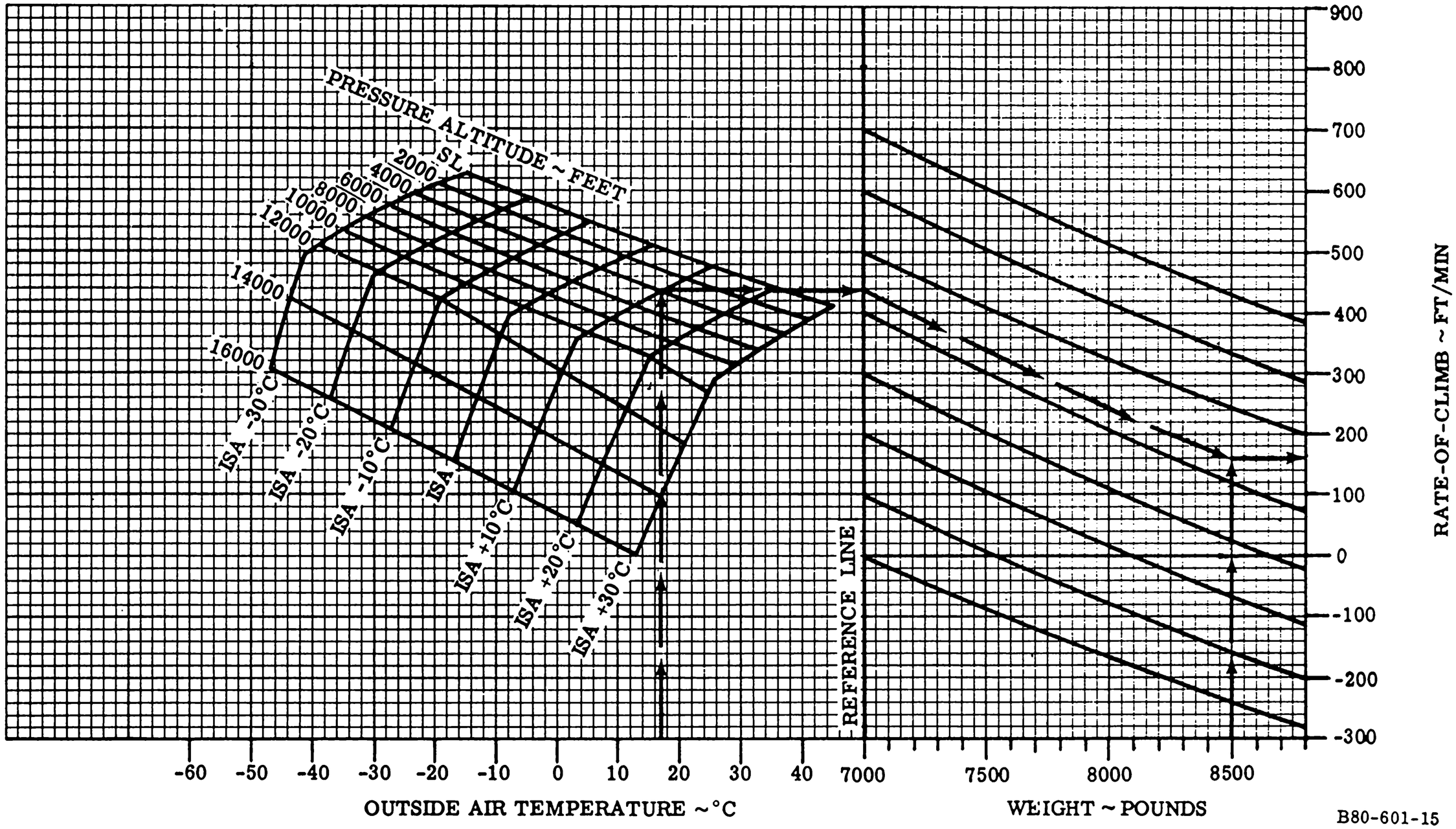
ASSOCIATED CONDITIONS:

POWER	MAXIMUM CONTINUOUS
FLAPS	UP
GEAR	UP
CLIMB SPEED	REFER TO SINGLE ENGINE BEST RATE-OF-CLIMB SPEEDS GRAPH
INOPERATIVE PROPELLER	FEATHERED

CONFIGURATION	APPROXIMATE RATE-OF-CLIMB LOSS	
GEAR DOWN	200	FT/MIN
PROP WINDMILLING	200	FT/MIN

EXAMPLE

OAT	17°C
PRESSURE ALTITUDE	4000 FT
WEIGHT	8500 LBS
RATE-OF-CLIMB	160 FT/MIN



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SINGLE ENGINE BEST RATE-OF-CLIMB SPEEDS

STANDARD DAY (ISA)

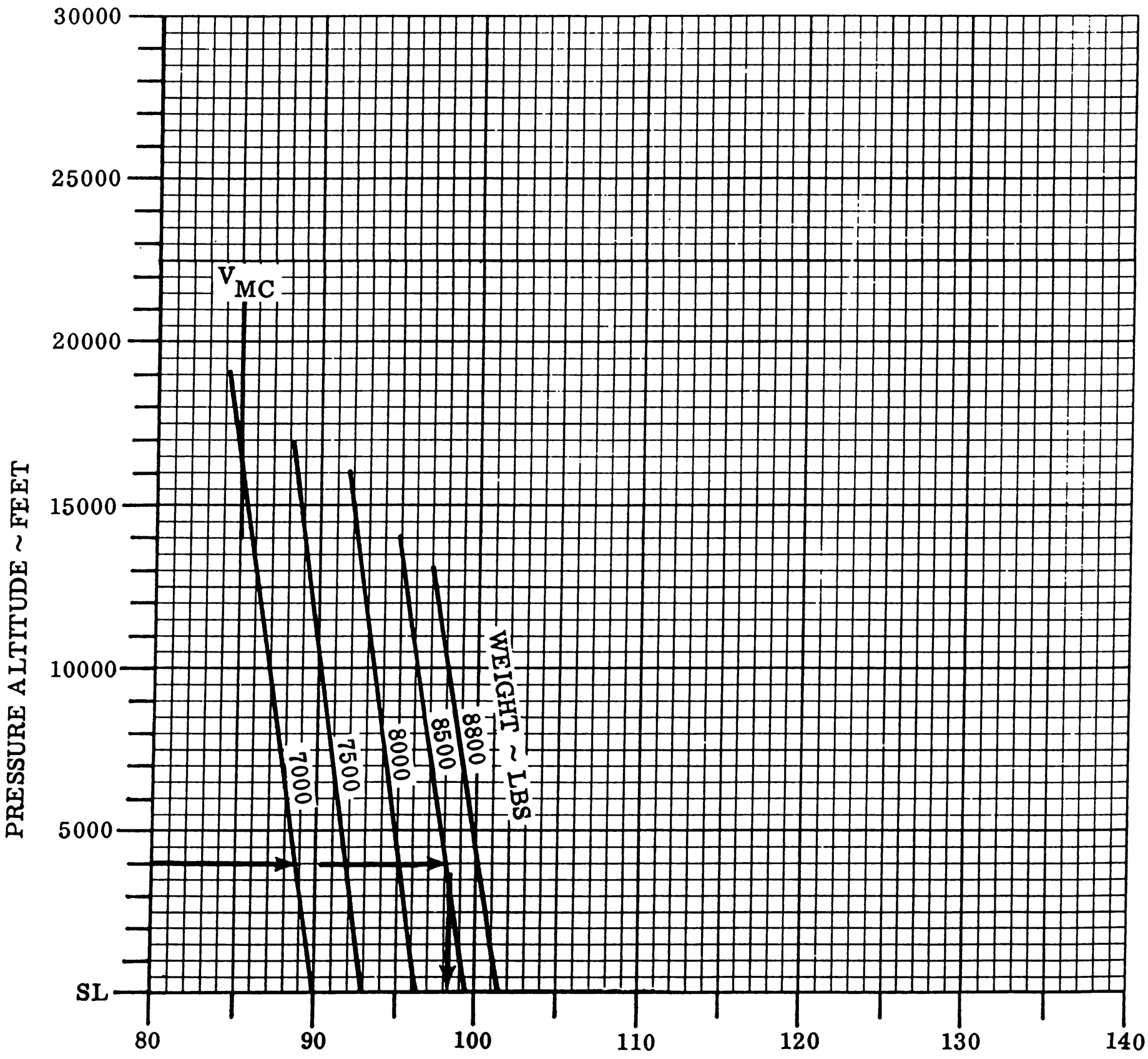
ASSOCIATED CONDITIONS:

POWER	MAXIMUM CONTINUOUS
GEAR	UP
FLAPS	UP
INOPERATIVE PROPELLER	FEATHERED

NOTE: IAS ASSUMES ZERO INSTRUMENT ERROR.

EXAMPLE:

PRESSURE ALTITUDE	4000 FT
WEIGHT	8500 LBS
BEST RATE-OF-CLIMB SPEED	98 KIAS



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BALKED LANDING CLIMB

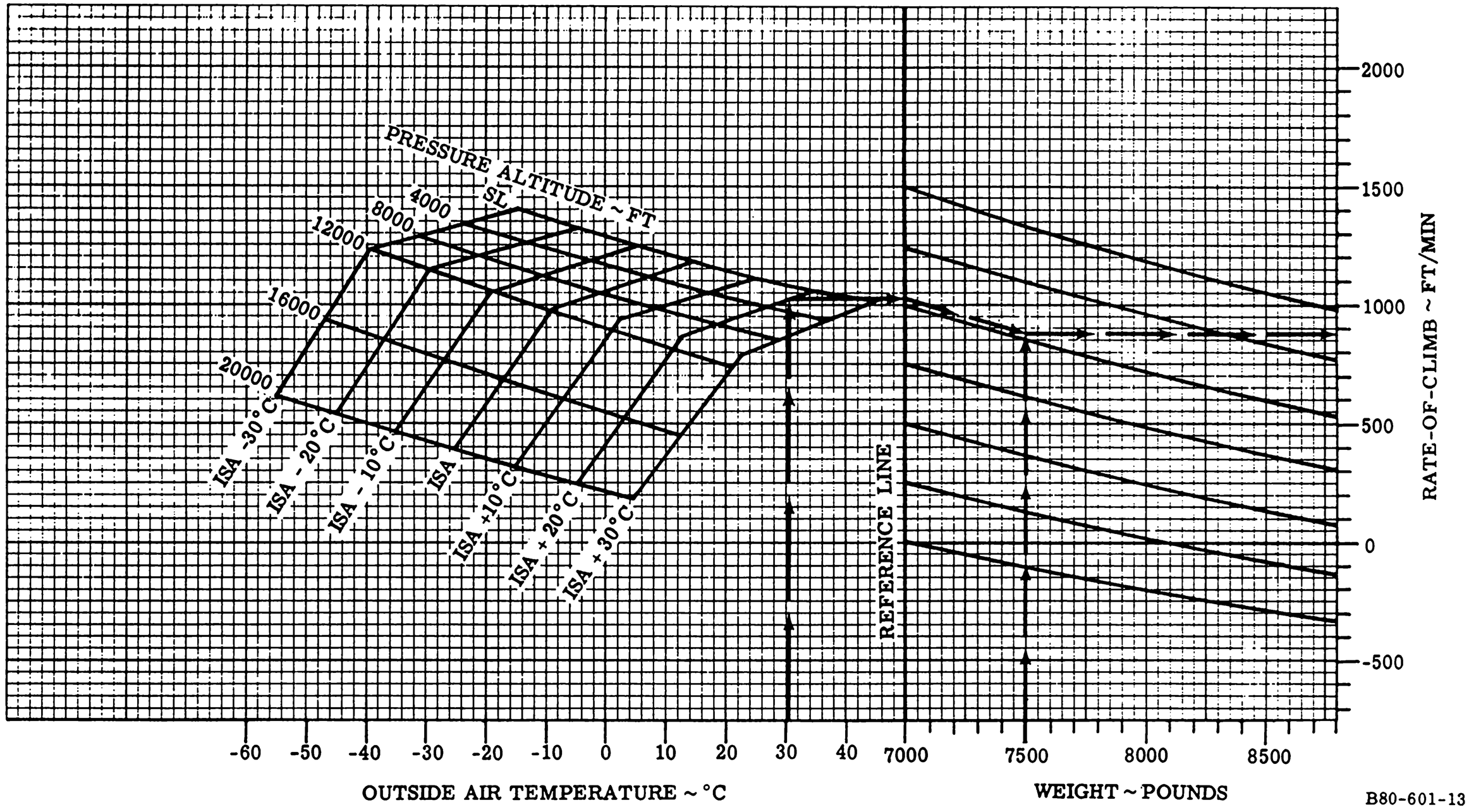
ASSOCIATED CONDITIONS:

POWER	TAKE-OFF
FLAPS	100%
GEAR	DOWN
CLIMB SPEED	IAS AS TABULATED

WEIGHT POUNDS	CLIMB SPEED ~ KNOTS	
	CAS	IAS (ASSUMES ZERO INST. ERROR)
8800	87	89
8500	86	88
8000	85	87
7500	84	86
7000	82	84

EXAMPLE:

OAT	31°C
PRESSURE ALTITUDE	2000 FT
WEIGHT	7500 LBS
RATE-OF-CLIMB	880 FT/MIN
CLIMB SPEED	84 KCAS
	86 KIAS



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FAA Approved
Issued: October 5, 1972

NORMAL LANDING

ASSOCIATED CONDITIONS:

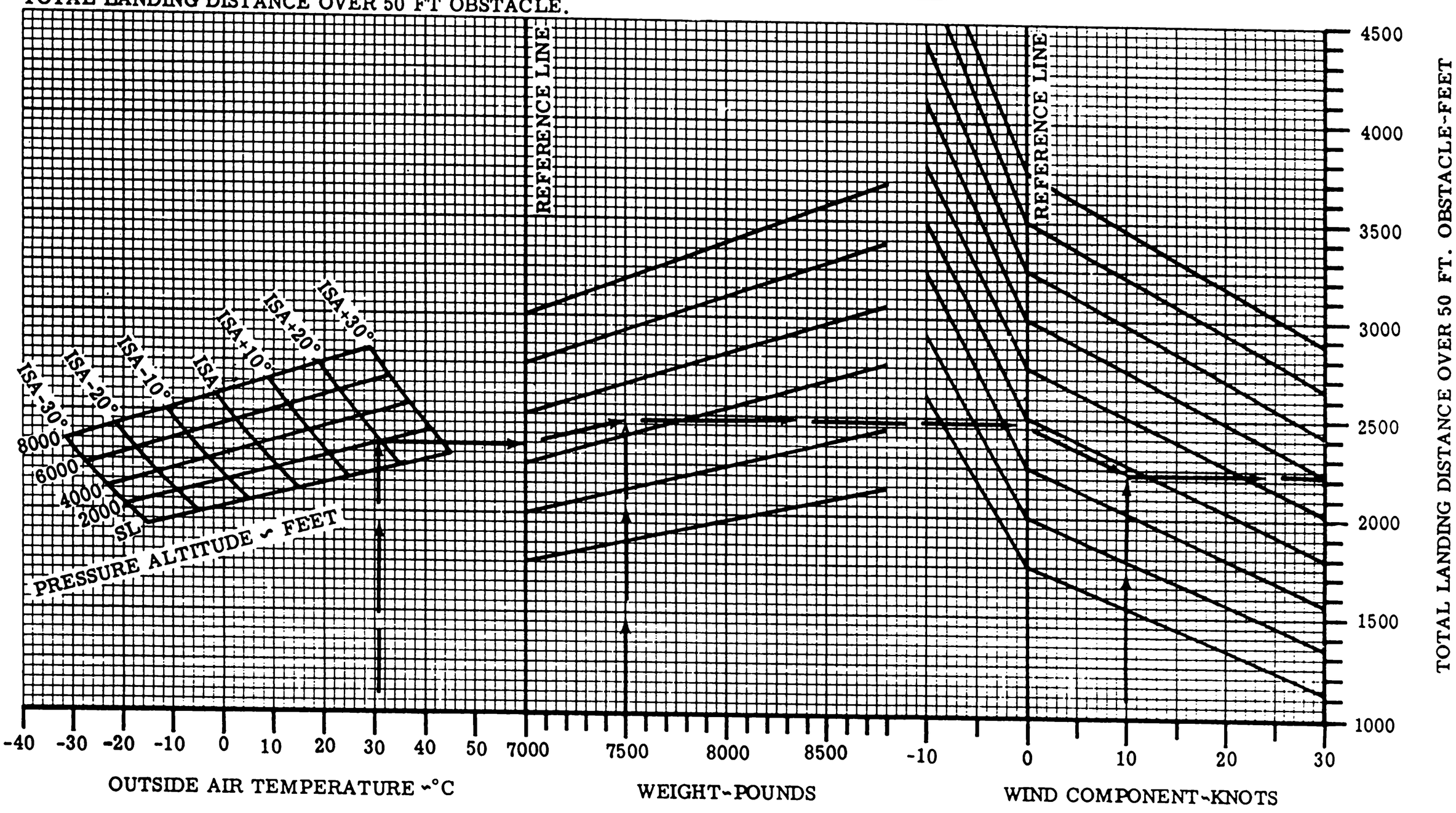
POWER	AS REQUIRED TO MAINTAIN 800 FT/MIN DESCENT ON APPROACH
FLAPS	100%
GEAR	DOWN
RUNWAY	PAVED, LEVEL, DRY SURFACE
APPROACH SPEED	IAS AS TABULATED
BRAKING	MAXIMUM

NOTE: GROUND ROLL IS APPROX. 63% OF TOTAL LANDING DISTANCE OVER 50 FT OBSTACLE.

WEIGHT POUNDS	IAS APPROACH SPEED (ASSUMES ZERO INST. ERROR)	
	MPH	KNOTS
8800	110	96
8500	108	94
8000	105	91
7500	101	88
7000	98	85

EXAMPLE:

OAT	31°C
PRESSURE ALTITUDE	2000 FT
WEIGHT	7500 LBS
WIND COMPONENT	10 KNOTS
TOTAL LANDING DISTANCE OVER 50 FT. OBSTACLE	2230 FT
GROUND ROLL (63% OF 2230)	1405 FT
IAS APPROACH SPEED	101 MPH
	88 KNOTS



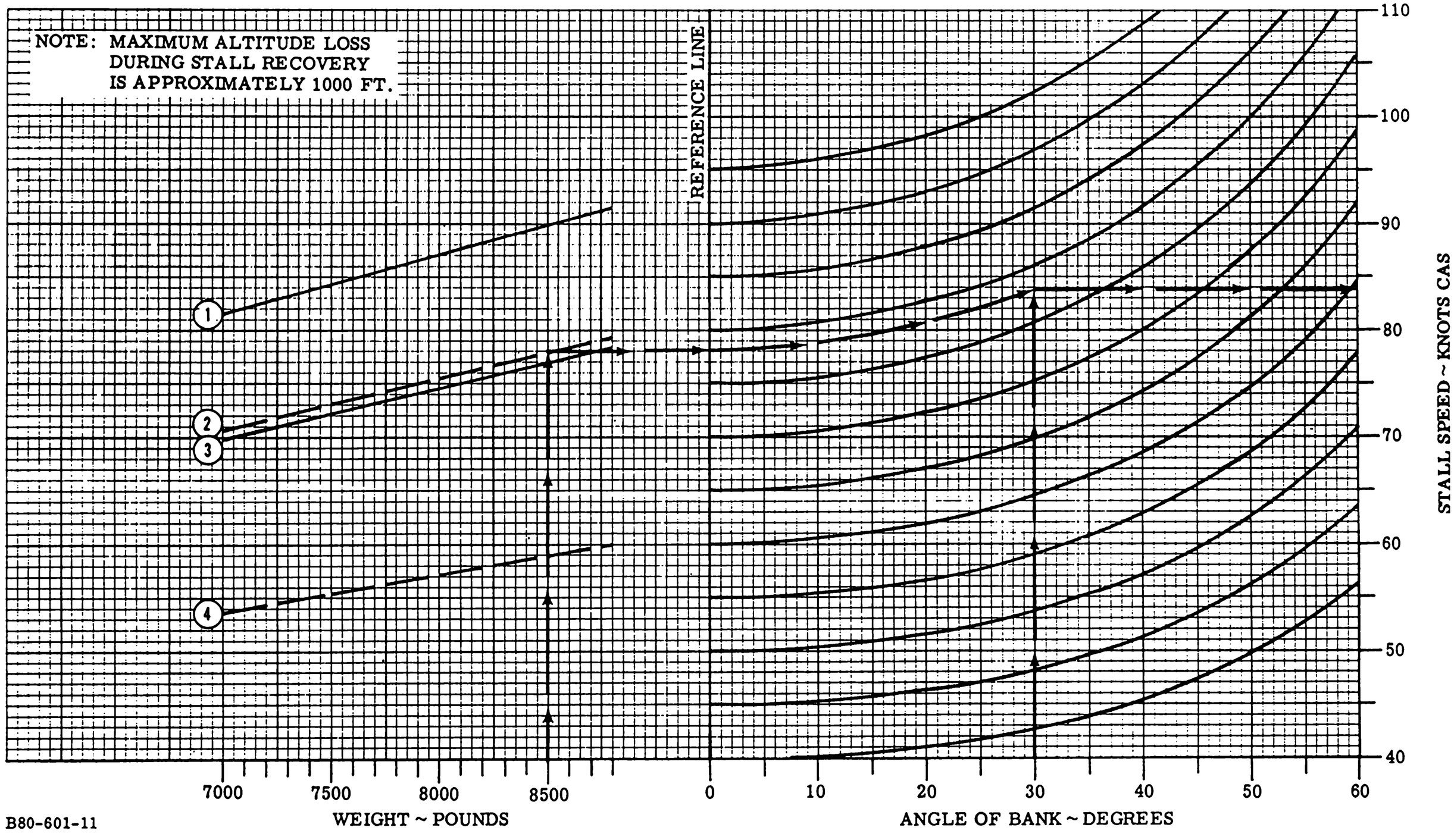
B80-601-12

STALL SPEEDS

EXAMPLE:

WEIGHT	8500 LBS
POWER	ON
GEAR	UP
FLAPS	UP
ANGLE OF BANK	30 DEG
STALL SPEED	84 KCAS

NO.	POWER	CONFIGURATION	
		GEAR	FLAPS
①	OFF	UP	UP
②	ON	UP	UP
③	OFF	DOWN	100%
④	ON	DOWN	100%



B80-601-11

FAA Approved
Issued: October 5, 1972

SECTION V

FAA

AIRPLANE FLIGHT MANUAL

SUPPLEMENTS

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Airplane Flight Manual Supplements

LOG OF REVISIONS

BEECHCRAFT Queen Air 65-B80 Airplane Flight Manual, P/N 50-590211-1

Revision Number	Part Number	Applicable Supplement	Date
	50-590211-5	BEECHCRAFT H14 Autopilot	October 5, 1972
	50-590211-7	Electrothermal Propeller Deice System	October 5, 1972
	50-590211-9	Simplified Induction System	October 5, 1972
	50-590211-11	Flight with Cabin Door Removed	October 5, 1972
	50-590211-13	Cargo Door	October 5, 1972
	50-590211-15	BEECHCRAFT Air Conditioner	October 5, 1972
	50-590211-17	Cargo Pod	October 5, 1972
	50-590211-19	Flight in Known Icing Conditions	October 5, 1972
1	50-590211-21	Area Navigation System, King KNC-610	March 21, 1975
2	50-590211-25	Nickel-Cadmium Battery Charge Current Detector	October 1, 1973
	131297	Engine Fire Detector System (Kit 80-9007-1) and/or Engine Fire Extinguisher System (Kit 80-9008-1)	November 29, 1974
	50-590211-31	Inspection of Engine Compartment and Wheel Well Flammable Fluid Lines and Fittings	May 29, 1978
	50-590211-33	Beech Continuous Sensing Fire Detection System	June 8, 1978
	131522	* Airborne Fuel Boost Pump Installation	February, 1979
	50-590211-35	Manual Landing Gear Extension Procedures	June 8, 1979

98-344058

* N/A to NCAR Aircraft

A black bar on a revised page shows the current change.

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Airplane Flight Manual Supplements

LOG OF REVISIONS

Queen Air 65-88 Airplane Flight Manual, P/N 65-001113-7B

Revision Number	Part Number	Applicable Supplement	Date
1	65-001113-13	BEECHCRAFT H-14 Autopilot	May 4, 1973
	FMS580	Woodward Electric Propeller Synchronizer	November 5, 1965
2	50-590211-25	Nickel-Cadmium Battery Charge Current Detector	October 1, 1973
	131297	Engine Fire Detector System (Kit 80-9007-1) and/or Engine Fire Extinguisher System (Kit 80-9008-1)	November 29, 1974
	131344	Cabin Door Warning Placard and Emergency Procedures for Illumination of Cabin Door Warning Light	November 14, 1975
	50-590211-31	Inspection of Engine Compartment and Wheel Well Flammable Fluid Lines and Fittings	May 29, 1978
	50-590211-33	Beech Continuous Sensing Fire Detection System	June 8, 1978
	131535	Dual Static Air System	January, 1979
	131522	Airborne Fuel Boost Pump Installation	February, 1979
	50-590211-35	Manual Landing Gear Extension Procedures	June 8, 1979

A black bar on a revised page shows the current change.

FAA Approved
Revised: June 8, 1979

BEECHCRAFT QUEEN AIR 65-B80 LANDPLANE

AIRPLANE FLIGHT MANUAL SUPPLEMENT

for the

BEECHCRAFT H-14 AUTOPILOT

This document supersedes the 65-B80 approval portion of P/N 65-001027-27 and P/N 65-001027-31.

This document is to be attached to the FAA Approved Flight Manual when the airplane is equipped with the BEECHCRAFT H-14 Autopilot, alone or in combination with Altitude Hold, ILS Coupler, or Automatic Trim.

I. OPERATING LIMITATIONS

A. Disengage autopilot before take-off.

B. Do not use autopilot under 100 feet above terrain.

C. In case of engine failure during an ILS approach, disengage autopilot.

D. Approach localizer at an angle of 70° or less with the approach coupler operating.

E. Do not use NAV function during VOR or AREA NAV approaches.

II. OPERATING PROCEDURES

A. Normal Operating Procedures.

1. Starting.

The autopilot may be turned on anytime after the aircraft engines have been started. Since the equipment is transistorized, no warm-up time is required. However, make certain that the gyros are erect and stable prior to engaging the system. Electrical power to the autopilot can be interrupted by pulling the autopilot circuit breaker.

2. Preflight Check

a. Check to see that the gyro pressure supply is indicating within the green arc. Make sure that both gyros are erect and stable.

b. Move the Turn Control to the right. The aileron control wheel should move to the right to full autopilot deflection. This is somewhat less than full aileron.

c. Turn the Turn Control to the left of center. The control wheel should move an equal amount to the left side. Intermediate positions of the ailerons are difficult to obtain, as there is no balancing signal on the servos or control surfaces.

d. Disengage the autopilot and re-engage with the elevator control column in the center of travel. Hold a slight back pressure to counteract the weight of the elevator. Rotate the autopilot Pitch Control wheel forward. The control column should move forward. The auto trim system should cause the manual trim wheel to rotate in a down direction (same direction of rotation as the autopilot pitch control wheel).

e. Engage the Altitude Switch by pushing it in. It should remain in. Move the pitch control wheel. The altitude switch should pop out.

f. When an ILS frequency can be received, engage the ILS (with the Altitude Switch on, the Turn Control in the detent position, and the D.G. uncaged). The altitude switch may drop out, depending on the glide slope signal strength. The aileron control will move in the direction of the ILS needle. Move the Turn Control out of the detent; the ILS switch should drop to the OFF position.

g. With the Turn Control in the detent position, and the directional gyro uncaged, turn the aircraft to the left (smaller heading). The aileron control wheel should move to the right. Turning the airplane to the right of the engaged heading should cause the aileron control wheel to move to the left. This check is usually performed while taxiing.

h. Disengage the autopilot. All controls should be free through full travel. Reset manual trim for take-off position.

CAUTION

After disengaging autopilot, recheck aircraft pitch trim prior to take-off.

3. In-Flight Operation.

The autopilot may be engaged at the pilot's discretion any time after take-off. First, manually trim the airplane with the elevator trim system. (This is not critical and manual trimming may be done on all axes while the autopilot is engaged). Center the pitch trim indicator with the pitch control. (On aircraft equipped with the Four Switch Push Button Solenoid Held Type Flight Controller, this function is automatic.) Place the turn control in the center detent position. Press the autopilot engage switch in. The switch should remain engaged. Disengage the autopilot by pressing the off portion of the switch. If the autopilot is engaged with the Turn Control out of detent, the aircraft will assume a bank angle proportional to the position of the Turn Control.

a. Maneuvering In Flight.

With the autopilot engaged, the aircraft may be maneuvered through ± 18° of pitch with the Pitch Control wheel and 30° left and right bank angles with the Turn Control (on aircraft equipped with the Four Switch Rocker Type Flight Controller) or through ± 22° of pitch with the Pitch Control wheel and 30° left and right bank angles with the Turn Control (on aircraft equipped with the Four Switch Push Button Solenoid Held type Flight Controller). The rudder is automatically coordinated during all turns, and rudder dampening is included anytime the autopilot is engaged. There is no minimum airspeed restriction for operation of the autopilot. Gear and flap operation plus change of airspeed may be performed normally with the autopilot engaged. If automatic pitch trim is not included in the system, manually retrim the elevator for flight condition changes by centering the pitch trim indicator. Trim the direction opposite the needle indication. The rudder axis may be trimmed to center the ball at anytime during autopilot operation.

b. Heading Operation.

The autopilot is electrically connected to the directional gyro for heading control whenever this gyro is engaged and the Turn Control is in the center (detent) position. The heading control is automatically disengaged when the Turn Control is used to bank the aircraft and automatically re-engages three (3) seconds after the Turn Control is returned to the center (detent) position.

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P/N 50-590211-5

c. Altitude Control Operation.

The altitude control may be engaged by pressing the ON portion of the altitude switch. It is automatically disengaged whenever a pitch signal is applied through the Pitch Control wheel, or directly by pressing the OFF portion of the altitude switch. The aircraft will hold the pressure altitude existing at the time the switch is depressed. For best operation, engage the altitude control in level flight. On aircraft equipped with Four Switch Rocker Type Flight Controller, and if the altitude switch is engaged in a normal climb or dive, the aircraft will level off slightly beyond the selected altitude. When the altitude switch is disengaged, the aircraft will assume the climb or dive attitude existing at the time that the altitude switch was depressed. On aircraft equipped with Four Switch Push Button Solenoid Held Type Flight Controller, the ALT button may be engaged in any pitch attitude. If aircraft is not level, the Altitude Control Function will level the aircraft and return it to the altitude existing when the ALT button was pressed. Releasing the button will not initiate the climb or dive attitude which existed prior to ALT engage.

d. ILS Coupler Operation.

The ILS coupler receives information from the radio ILS receivers to home-in on the localizer and glide path. The proper ILS frequency must be tuned in and the OFF warning flags must be down before using the ILS coupler. Let down, orientation, and procedure turn (approach at 70° or less to the beam heading) may be performed with the autopilot. Engage the altitude switch when the authorized altitude for the procedure turn is reached. Engage the ILS switch after the ILS localizer needle is one-half of full scale and moving toward center. Airspeed during localizer intercept shall not exceed 140 MPH. The aircraft will then automatically bracket the beam. When the aircraft intercepts the glide path, the altitude switch will automatically disengage and the glide coupler will provide the proper pitch control to hold the aircraft on the glide path. Airspeed during the descent is controlled by the throttles. In case of a missed approach, disengage the ILS coupler by moving the Turn Control out of the detent, or by pressing the OFF portion of the ILS switch.

NOTE

In the event the glide path of the ILS system is inoperative, or a glide path receiver is not included in the aircraft's radio equipment, intercept the localizer at least four (4) miles outside of the outer marker. Fly the altitude and glide path with the Pitch Control wheel.

B. Emergency Procedures.

1. Maximum altitude losses during malfunction tests were:

CONFIGURATION	ALTITUDE LOSS
Cruise	180 ft.
Approach/ILS Coupler	50 ft.

2. Overpower forces at the pilot's controls are as follows:

CONTROL	OVERPOWER FORCE
Aileron	15 lbs.
Elevator	24 lbs.
Rudder	50 lbs.

3. Failure of either or both of the pneumatic pumps is indicated by red button indicators in the instrument pressure gage.

NOTE

Both pneumatic pumps supply a common pressure manifold. Neither instruments nor autopilot is affected by failure of one pump.

CAUTION

In case of engine failure during an ILS approach, disengage the autopilot and maintain ILS heading and glide path.

Approved: A. H. Schmetz

for Chester A. Rembleske
Beech Aircraft Corporation
DOA CE-2

FAA Approved
Date: October 5, 1972
P/N 50-590211-5

BEECHCRAFT QUEEN AIR 65-B80 LANDPLANE

AIRPLANE FLIGHT MANUAL SUPPLEMENT

for the

ELECTROTHERMAL PROPELLER DEICE SYSTEM

This document supersedes the 65-B80 approval portion of P/N 130235 and P/N 130351.

The information in this document if FAA approved material which together with the FAA Approved Airplane Flight Manual must be in the airplane during all flight operations when equipped with an Electrothermal Propeller Deice System installed in accordance with Beech Aircraft Corporation FAA approved data.

I. LIMITATIONS

1. Airplanes equipped with only the Electrothermal Propeller Deice System are not approved for flight in known icing conditions. (Refer to Airplane Flight Manual Supplement, FLIGHT IN KNOWN ICING CONDITIONS, P/N 60-590001-17).

2. Propeller Deice should not be operated when propellers are static.

II. PROCEDURES (Procedures outlined for safety of flight when icing is inadvertently encountered).

1. BEFORE TAKE-OFF

   a. Propeller Deice Switch - ON.

   b. Deice Ammeter - 14 to 18 AMPERES.

   c. To check the automatic timer, watch the deice ammeter closely for at least two minutes. A small momentary needle deflection approximately every 30 seconds shows that the timer is switching and indicates normal system operation.

   d. Propeller Deice Switch - OFF.

2. IN FLIGHT

   a. Propeller Deice Switch - ON. The system may be operated continuously in flight and will function automatically until the switch is turned off.

   b. Relieve propeller imbalance due to ice by increasing rpm briefly and returning to the desired setting. Repeat as necessary.

III. EMERGENCY PROCEDURES

An abnormal reading on the Propeller Deice Ammeter indicates need for the following action:

1. Zero Amps.

   Check prop deice circuit breaker. If the circuit breaker has tripped, a wait of approximately 30 seconds is necessary before resetting. If ammeter reads 0 and the circuit breaker has not tripped or if the ammeter still reads 0 after the circuit breaker has been reset, turn the switch off and consider the prop deice system inoperative.

2. Zero to 14 Amps.

   If the prop deice system ammeter occasionally or regularly indicates less than 14 amps, operation of the prop deice system can continue unless serious propeller imbalance results from irregular ice throw-offs.

3. 18 to 23 Amps.

   If the prop deice system ammeter occasionally or regularly indicates 18 to 23 amps, operation of the prop deice system can continue unless serious imbalance results from irregular ice throw-offs.

4. More than 23 Amps.

   If the prop deice system ammeter occasionally or regularly indicates more than 23 amps, the system should not be operated unless the need for prop deicing is urgent.

APPROVED: N. A. Schuetz

for Chester A. Rembleske
Beech Aircraft Corporation
DOA CE-2

FAA Approved
Date: October 5, 1972
P/N 50-590211-7

BEECHCRAFT QUEEN AIR 65-B80 LANDPLANE

AIRPLANE FLIGHT MANUAL SUPPLEMENT

for the

SIMPLIFIED INDUCTION SYSTEM

This document supersedes the 65-B80 approval portion of P/N 130664.

This document is to be attached to the FAA Approved Flight Manual when the airplane is equipped with a simplified induction system kit, (Kit No. 80-9006 for models with Bendix type fuel injection systems.)

A. NORMAL PROCEDURES

1. Induction System Icing.

CAUTION

Prior to entering fog, clouds, snow or other forms of visible moisture with OAT below 40°F, (5°C).

a. Apply full induction air heat. (Power settings of 55% or 65%, with mixture leaned to peak cylinder head temperatures, produce the maximum heat and should be used when icing is expected.)

b. If engine roughness occurs when attempting to return to normal operation after clearing the icing condition, return immediately to full alternate air and remain until landing.

APPROVED: A. A. Schultz

for Chester A. Rembleske
Beech Aircraft Corporation
DOA CE-2

FAA Approved
Date: October 5, 1972
P/N 50-590211-9

BEECHCRAFT QUEEN AIR 65-B80 LANDPLANE

AIRPLANE FLIGHT MANUAL SUPPLEMENT

for the

FLIGHT WITH CABIN DOOR REMOVED

This document supersedes the 65-B80 approval portion of P/N 130758.

This document is to be attached to the FAA Approved Flight Manual when the airplane is equipped and placarded for flight with the cabin entrance door removed.

The aircraft may be flown with the cabin door removed for the purpose of intentional egress from the cabin of properly equipped personnel or other objects of material or equipment, provided the aircraft is operated in accordance with the applicable Federal Aviation Regulations and the following limitations.

LIMITATIONS:

1. Maximum speed: No additional limitations.
2. An FAA approved safety belt installation must be provided and worn by each occupant.
3. All occupants must wear parachutes when conducting intentional parachute jumping operations.
4. Smoking is not permitted with the door removed.
5. When operations other than intentional parachute jumping are conducted, a suitable guard rail or equivalent safety device must be provided for the doorway.
6. All loose articles must be tied down or stowed.
7. Parachutists' static lines must be kept free of pilots' controls and control surfaces.
8. Operations are limited to VFR conditions.
9. Operation of this aircraft for any other purpose than for which it is certificated, with a door removed, is prohibited.
10. The following placard must be placed on the panel above windshield (L.H. side) in full view of the pilot:

    "For flight with cabin door removed, see aircraft operating limitations with door removed."

11. A copy of these limitations must be carried in the aircraft when flight operations are conducted with the door removed.
12. Maximum yaw angle 10°; maximum bank angle 15°.
13. These operating limitations are a part of the airworthiness certificate.

APPROVED: R. H. Schultz

for Chester A. Rembleske
Beech Aircraft Corporation
DOA CE-2

FAA Approved
Date: October 5, 1972
P/N 50-590211-11

BEECHCRAFT QUEEN AIR 65-B80 LANDPLANE

AIRPLANE FLIGHT MANUAL SUPPLEMENT

for the

CARGO DOOR

This document supersedes the 65-B80 approval portion of P/N 130759.

This document is to be attached to the FAA Approved Flight Manual when the airplane is equipped with a cargo door.

LIMITATIONS:

1. Cargo loading placard must be installed on the cargo door below the door window on the inside and in plain view of all persons loading aircraft.

2. Cargo density must not exceed 200 lb. per square foot with a maximum compartment capacity of 3000 lb.

3. Cargo must be adequately restrained by minimum of one tie down attachment aft and one tie down forward for each 200 lb. of cargo.

4. Aft tie down must not have angle with floor greater than 45 degrees when tie down is snug.

5. A clear path of ingress and egress from the pilot's compartment to the cabin door and/or emergency exit must be maintained.

APPROVED: N. A. Schultz

for Chester A. Rembleske
Beech Aircraft Corporation
DOA CE-2

FAA Approved
Date: October 5, 1972
P/N 50-590211-13

BEECHCRAFT QUEEN AIR 65-B80 LANDPLANE

AIRPLANE FLIGHT MANUAL SUPPLEMENT

for the

BEECHCRAFT AIR CONDITIONER

This document supersedes the 65-B80 approval portion of P/N 130073.

This document is to be attached to the FAA Approved Airplane Flight Manual when the airplane is equipped with a Beechcraft Air Conditioner.

LIMITATIONS

1. An auxiliary power unit is recommended for operation of the air conditioner. However, the air conditioner may be operated on the aircraft's electrical system provided the following precautions are observed:

   a. The aircraft must be equipped with 100 amp or greater, generators or alternator-rectifiers.

   b. Both engines must be operating at minimum rpm required to produce sufficient electrical current for operation of the electrical system. This is to be established with voltage indicators showing a reading of 27 to 28 volts.

   c. Observe engine cooling limits (cylinder head temperature) during operation.

   d. To reduce generator overheating and probable failure during ground operation all equipment such as ADF, standby communications, omni's, pitot heat, landing lights, radar, etc., must be off. The use of only one communication system is recommended during aircraft ground holding periods, while the air conditioner is on.

   e. The use of the air conditioner in flight is acceptable only if the electrical load is monitored so that the generator capacity is not exceeded.

APPROVED: N. A. Schultz

for Chester A. Rembleske
Beech Aircraft Corporation
DOA CE-2

FAA Approved
Date: October 5, 1972
P/N 50-590211-15

BEECHCRAFT QUEEN AIR 65-B80 LANDPLANE

AIRPLANE FLIGHT MANUAL SUPPLEMENT

for the

CARGO POD

This document supersedes the 65-B80 approval portion of P/N 130791.

This document is to be attached to the FAA Approved Flight Manual when the airplane is equipped with a cargo pod per Kit 80-4013.

I. LIMITATIONS

Placards:
Adjacent to pod loading door: MAXIMUM BAGGAGE LOADING 300 LBS.

III. PERFORMANCE

The cargo pod installation decreases the climb performance listed in the basic FAA Airplane Flight Manual by 15 feet per minute. Takeoff, landing and stall speed performance is unchanged.

APPROVED: N. H. Schultz

for Chester A. Rembleske
Beech Aircraft Corporation
DOA CE-2

FAA Approved
Date: October 5, 1972
P/N 50-590211-17

BEECHCRAFT QUEEN AIR 65-B80 LANDPLANE

AIRPLANE FLIGHT MANUAL SUPPLEMENT

for

FLIGHT IN KNOWN ICING CONDITIONS

The information in this document is FAA approved material which together with the FAA Approved Airplane Flight Manual must be in the airplane during all flight operations when the aircraft has been certified as properly equipped for flight into known icing conditions. The equipment listed must be installed at the Beech Aircraft Corporation factory or must be installed as Beech Aircraft Corporation approved kits.

I. LIMITATIONS

1. Aircraft must be equipped with the following items and all equipment listed must be operable:

   a. Wing and Empennage Continuous Pressure Operated Surface Deice System.
   b. Electrothermal Propeller Deice System or Fluid Flow Propeller Deicer System.
   c. Fuel Vent Heaters.
   d. Heated Stall Warning.
   e. Pitot Heat
   f. Left Windshield Heat or Fluid Flow Windshield Anti-Ice System.
   g. Antenna Mast capable of withstanding ice loads.
   h. FAA Approved Airplane Flight Manual (P/N 50-590211-1 with latest Revision)
   i. FAA Approved Airplane Flight Manual Supplement; Electrothermal Propeller Deice System, P/N 50-590211-7, dated October 5, 1972 or later.

2. Stall speed is increased 4 KIAS in all configurations with surface deice equipment installed.

CAUTION

Stalling airspeeds should be expected to increase when ice has accumulated on the airplane due to the distortion of the wing airfoil. For the same reason, stall warning devices may not be accurate and should not be relied upon. Maintain a comfortable margin of airspeed above the normal stall airspeed with ice on the airplane.

II. PROCEDURES

BEFORE TAKE-OFF

1. Surface Deice System - CHECK

   a. Power - 2000 RPM
   b. Deice Cycle Switch - AUTO (UP)
   c. Pneumatic Pressure - 15 to 18 PSI
   d. Wing Boots - CHECK VISUALLY FOR INFLATION AND HOLD DOWN

2. Electrothermal Propeller Deice - CHECK

   a. PROP DE-ICE Switch - ON

   b. PROP AMP Indicator - CHECK, 14 to 18 AMPERES 7 to 12 AMPERES

   c. Automatic Timer - CHECK PROPELLER AMMETER FOR 2 MINUTES (needle deflection every 30 seconds indicates normal operation)

3. Pitot Heat and Heated Stall Warning

   a. Left Pitot Heat Switch - ON (Operation of Pitot Heat and Heating of the transducer vane can be checked by feel)

NOTE

Switches may be left on throughout flight. Prolonged operation on the ground could damage the Pitot Heat System.

4. Windshield Heat - CHECK

   a. Windshield Anti-ice Switch - ON (Note deflection on Loadmeter.)

   b. Windshield - CHECK (feel for warming)

NOTE

Switch may be left on for flight operation.

5. Windshield and Propeller Anti-ice System (Fluid Flow)

   a. Check quantity in reservoir

   b. Check slinger ring and vents for obstruction

   c. Check propeller boots for damage

IN FLIGHT

1. Surface Deice System.
   When ice accumulates 1/2 to 1 inch:

   a. Deice Cycle Switch - AUTO (UP)

   b. Pneumatic Pressure Gage - CHECK 9 to 20 PSI (While system is on pressure cycle) (Complete cycle and dump period is approximately 60 seconds.

CAUTION

Cycling before at least 1/2 inch of ice has accumulated may cause the ice to grow outside the contour of the inflated boots and prevent ice removal.

NOTE

Either engine will supply sufficient vacuum and pressure for deice operation.

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2. Electrothermal Propeller Deice

   a. PROP DE-ICE Switch - ON

NOTE

Systems may be operated continuously in flight. Relieve propeller imbalance by increasing rpm. If PROP AMPS reads above 18 amperes or below 4 amperes refer to Airplane Flight Manual Supplement.

3. Left Pitot Heat and Heated Stall Warning

   a. May be turned on before take-off. System may be operated continuously in flight. Check HEAT ON when encountering visible moisture.

CAUTION

Prolonged use of Pitot Heat on the ground will damage the heating elements.

4. Heated Windshield

   a. Windshield Anti-ice Switch - AS REQUIRED (Heat should be applied before ice forms.)

CAUTION

The electrically heated windshield may be turned off for a 15 second period to allow the pilot to take a reading on the standby compass for the purpose of resetting the directional gyro.

Ground use of windshield heat is limited to 10 minutes.

5. Propeller and Windshield Anti-ice System (Fluid Flow)

   a. Prop Anti-ice Re-start Switch - AS REQUIRED

   b. Windshield Anti-ice Switch - CYCLE AS REQUIRED

   c. Quantity Gage - MONITOR

APPROVED: N. A. Schuetz

for Chester A. Rembleske
Beech Aircraft Corporation
DOA CE-2

FAA Approved
Date: October 5, 1972
P/N 50-590211-19

BEECHCRAFT QUEEN AIR 65-B80 LANDPLANE

AIRPLANE FLIGHT MANUAL SUPPLEMENT

for the

KING KNC-610 AREA NAVIGATION SYSTEM

The information in this document is FAA Approved material which must be attached to the basic FAA Approved Airplane Flight Manual when the airplane is modified by the installation of the King KNC-610 Area Navigation System.

LIMITATIONS

1. This system may not be used as a primary system under IFR conditions except on approved approach procedures, approved area navigation airways and random area navigation routes when approved by Air Traffic Control.

2. This system can only be used with colocated facilities (VOR and DME signals originate from same geographical location).

NORMAL PROCEDURES

1. VHF NAV - ON
2. DME - ON
3. Mode Selector - SELECT VOR/DME, RNAV, or APPR
4. NAV Frequency - SET
5. DME Frequency - SET
6. Waypoint Bearing - SET WAYPOINT RADIAL FROM VORTAC
7. Waypoint Distance - SET WAYPOINT DISTANCE FROM VORTAC
8. OBS Control - DESIRED MAGNETIC COURSE
9. Self-Test - ACTUATE (must have VOR reception)

EMERGENCY PROCEDURES

CAUTION

DME may unlock due to loss of signal with certain combinations of distance from station, altitude, and angle of bank.

1. VOR or Distance flag appears while in RNAV mode:

   a. Selected Frequency - CHECK FOR CORRECT FREQUENCY.
   b. VOR or Distance Flag Intermittent or Lost - UTILIZE OTHER NAV EQUIPMENT AS REQUIRED.

2. VOR or Distance flag appears while in APPR mode:

   a. If flag appears while on an approach, execute published missed approach and utilize other approved facility.

Approved: N. H. Schultz

for Chester A. Rembleske
Beech Aircraft Corporation
DOA CE-2

FAA Approved
Date: March 21, 1975
P/N 50-590211-21

BEECHCRAFT QUEEN AIRS 65-B80 & 65-88 LANDPLANES

AIRPLANE FLIGHT MANUAL SUPPLEMENT

for the

NICKEL-CADMIUM BATTERY CHARGE CURRENT DETECTOR

The information in this supplement is FAA Approved material, which, along with the basic FAA Approved Airplane Flight Manual, is applicable to the operation of the airplane when equipped with the Nickel-Cadmium Battery Charge Current Detector, P/N 100-364285, approved by Letter ACE-210, dated September 25, 1973, FAA Central Region Engineering and Manufacturing Branch, Wichita, Kansas and installed in accordance with Beech FAA Approved Drawings or by Kit 100-3009-1 or 100-3009-7.

The Battery Charge Current Detector consists of a circuit which illuminates an amber light on the instrument panel whenever the battery charge current is in above normal. The system is designed for a continuous monitor of the battery condition.

The purpose of the Battery Charge Current Detector is to inform the pilot of battery charge currents which may damage the battery. The system senses all battery current and provides a visual indication of above normal charge current. Following a battery engine start, the battery recharge current is very high and causes the illumination of the BATTERY CHARGE light, thus providing an automatic self test of the detector and the battery. As the battery approaches a full charge and the charge current decreases to a satisfactory amount, the light will extinguish. This will normally occur within a few minutes after an engine start, but may require a longer time, if the battery has a low state of charge, low charge voltage per cell (20 cells battery), or low battery temperature.

The light may occasionally reappear for short intervals when heavy loads switch off, or engine speeds are varied near generator cut-in speed. High battery temperatures or high charge voltage per cell will result in a high overcharge current which will eventually damage the battery and lead to thermal runaway. Illumination of the BATTERY CHARGE light in flight alerts the pilot that conditions exist that may eventually damage the battery. The battery should be turned off to prevent battery damage. The following procedures outline the actions to be taken in the event the BATTERY CHARGE light illuminates.

NORMAL PROCEDURES

BEFORE STARTING ENGINES

1. Caution Light (BATTERY CHARGE) - PRESS TO TEST for illumination

DURING ENGINE START

Provided sufficient energy is used from the battery during the first engine start, the amber caution light, placarded BATTERY CHARGE, will illuminate approximately 6 seconds after the generator is on the line. This indicates a charge current above normal. The light should extinguish within 5 minutes. Failure to do so indicates a partially discharged battery. Continue to charge the battery. Make a check each 90 seconds using the During Engine Shutdown procedure outlined below until the charge current fails to decrease and the light extinguishes. Failure of the light to extinguish indicates an unsatisfactory condition. The battery should be removed and checked by a qualified Nickel-Cadmium Battery shop.

FAA Approved
Date: October 1, 1973
P/N 50-590211-25

BEECHCRAFT LANDPLANES
50, B50, C50, D50, D50A, D50B, D50C, D50E, E50, F50, G50, H50, J50, 65, A65, A65-8200, 65-80, 65-A80, 65-A80-8800, 65-B80, 65-88, and 70

FAA APPROVED AIRPLANE FLIGHT MANUAL SUPPLEMENT

for

INSPECTION OF ENGINE COMPARTMENT AND WHEEL WELL FLAMMABLE FLUID LINES AND FITTINGS

GENERAL

The information in this supplement is FAA approved material and must be carried in the airplane at all times and be kept within reach of the pilot during all flight operations.

This document supersedes and adds to the FAA Approved Airplane Flight Manual where covered in the items contained herein.

LIMITATIONS - No Change

EMERGENCY PROCEDURES - No Change

NORMAL PROCEDURES

PREFLIGHT

In addition to the presently specified preflight procedures, prior to the first flight of each day, accomplish the following:

1. Start both engines and operate at 1500 rpm. After the oil pressure stabilizes, shut down the engines using the mixture control.

2. Open the cowl doors on both sides of the engines and check all engine compartment flammable fluid lines and fittings for indication of leakage. Check the wheel wells for these same conditions using a flashlight or supplemental light as necessary to provide adequate illumination of the area.

3. Correct any leaks detected and secure cowl doors.

PERFORMANCE - No Change

SYSTEMS DESCRIPTION - No Change

Approved:
for Donald St Peters
Chester A. Rembleske
Beech Aircraft Corporation
DOA CE-2

FAA Approved
Issued: May 29, 1978
P/N 50-590211-31

P/N 50-590211-33

INSTRUCTION SHEET

FAA APPROVED AIRPLANE FLIGHT MANUAL
SUPPLEMENT

for the

BEECH CONTINUOUS SENSING FIRE DETECTION SYSTEM

Issued: June 8, 1978

Airplanes for which this supplement is Effective:

50, B50, C50, D50, D50A, D50B, D50C, D50E, E50, F50, G50, H50, J50, 65, A65, A65-8200, 65-80, 65-A80, 65-A80-8800, 65-B80, 65-88, and 70

Pilot's Operating Manuals for which this supplement is effective:

Queen Air 65-B80 ..... P/N 50-590211-3

Queen Air 65-88..... P/N 65-001113-5B

INSTRUCTIONS

1. For those airplanes utilizing a basic loose-leaf flight manual, place this supplement in the airplane with the flight manual.

2. For those airplanes with a Pilot's Operating Manual, add this supplement and log page in the appropriate places in the Supplements section of the manual. Discard the old log page.

After compliance, this Instruction Sheet may be discarded.

BEECHCRAFT LANDPLANES

50, B50, C50, D50, D50A, D50B, D50C, D50E, E50, F50, G50, H50, J50, 65, A65, A65-8200, 65-80, 65-A80, 65-A80-8800, 65-B80, 65-88, and 70

FAA APPROVED AIRPLANE FLIGHT MANUAL SUPPLEMENT

for the

BEECH CONTINUOUS SENSING FIRE DETECTION SYSTEM

GENERAL

The information in this supplement is FAA approved material and must be carried in the airplane at all times and be kept within reach of the pilot during all flight operations. This continuous-sensing-type fire detection system is FAA approved when installed in accordance with Kit 80-9010.

This document supersedes and adds to the FAA Approved Airplane Flight Manual where covered in the items contained herein.

LIMITATIONS

1. Flight will not be initiated with any malfunction of either the right or left fire detection systems.

EMERGENCY

ILLUMINATION OF FIRE DETECT LIGHT (ON GROUND)

1. Mixture Controls - IDLE CUT-OFF
2. Continue to crank affected engine
3. Fuel Selector Valves - OFF
4. Generator/Alternator Switches - OFF
5. Master Switch - OFF
6. Extinguish with fire extinguisher

ILLUMINATION OF FIRE DETECT LIGHT (IN FLIGHT)

Shut down the affected engine according to the following procedures and land immediately.

1. Mixture - IDLE CUT OFF
2. Fuel Selector Valve - OFF
3. Oil Shut-off Handle (if applicable) - OFF
4. Propeller - FEATHERED
5. Throttle - FULL OPEN
6. Fuel Boost Pumps - CHECKED OFF
7. Magneto/Start Switch - OFF
8. Generator/Alternator Switch - OFF

NORMAL PROCEDURES

PREFLIGHT

In addition to the presently specified preflight procedures, accomplish the following:

1. Depress the fire detect indicator lens for integrity check of the system. Indicator lights should illuminate.

PERFORMANCE - No Change

WEIGHT AND BALANCE - No Change

FAA Approved
Issued: June 8, 1978
P/N 50-590211-33

SYSTEMS DESCRIPTION

The Beech continuous sensing fire detection system consists of two press-to-test indicator lights and two sensor/responders. The indicator lights are mounted on the pilot's instrument panel and will illuminate any time the temperatures in the proximity of the sensor exceed a predetermined level. The sensor element is a sealed tube which contains a core material capable of releasing a large volume of gas when a set trigger temperature is exceeded. When the gas pressure in the sensor exceeds the preset limit, a snap-action pressure switch in the responder closes and 28 VDC is applied directly to the indicator lights. This core outgassing is completely reversible and will clear when the temperature is reduced, causing the indicator lights to extinguish.

HANDLING, SERVICING AND MAINTENANCE

The sensor must be replaced any time it is subjected to direct flame. Failure to pass preflight self-test may be caused by a burned out light bulb, a ruptured sensor tube, inoperative pressure switch or faulty electric circuitry.

Approved:

for Donald St Peter
Chester A. Rembleske
Beech Aircraft Corporation
DOA CE-2

FAA Approved
Issued: June 8, 1978
P/N 50-590211-33

BEECHCRAFT QUEEN AIR 65, A65, A65-8200, 70, 65-80, 65-A80, 65-A80-8800, 65-B80 AND 65-88 LANDPLANES

FAA APPROVED AIRPLANE FLIGHT MANUAL

SUPPLEMENT

for

MANUAL LANDING GEAR EXTENSION PROCEDURES

GENERAL

The information in this supplement is FAA-approved material and must be attached to the *FAA Approved Airplane Flight Manual* and be carried in the airplane at all times and be kept within reach of the pilot during all flight operations.

The information in this supplement supersedes or adds to the basic *FAA Approved Airplane Flight Manual* only as set forth within this document. Users of the manual are advised always to refer to the supplement for possibly superseding information and placarding applicable to operation of the airplane.

LIMITATIONS - No Change.

EMERGENCY PROCEDURES

LANDING GEAR

LANDING GEAR EMERGENCY EXTENSION

1. Airspeed – Below 156 Knots IAS
2. Landing Gear Relay Circuit Breaker – PULL
3. Landing Gear Handle – DOWN
4. Emergency Engage Handle – LIFT AND TURN CLOCKWISE TO THE STOP TO ENGAGE.
5. Extension Lever – PUMP up and down until the 3 green GEAR DOWN lights illuminate.

WARNING

If for any reason the green GEAR DOWN lights do not illuminate (e.g. in case of an electrical failure), continue pumping until resistance prohibits further movement of the handle.

CAUTION

Stop pumping when the 3 green GEAR DOWN lights illuminate. Further movement of the handle could bind the drive mechanism and prevent subsequent electrical gear retraction.

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Issued: June 8, 1979
P/N 50-590211-35

WARNING

After an emergency landing gear extension has been made, do not stow pump handle, move any landing gear controls, or reset any switches or circuit breakers until the airplane is on jacks, since the failure may have been in the gear-up circuit, and the gear might retract on the ground. The landing gear cannot be retracted manually.

NORMAL PROCEDURES – No Change.

PERFORMANCE – No Change.

Approved:

Donald H Peter

for W. H. Schultz
Beech Aircraft Corporation
DOA CE-2

FAA Approved
Issued: June 8, 1979
P/N 50-590211-35

SECTION VI

PERFORMANCE

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DISTANCE TO ACCELERATE TO DECISION SPEED AND STOP

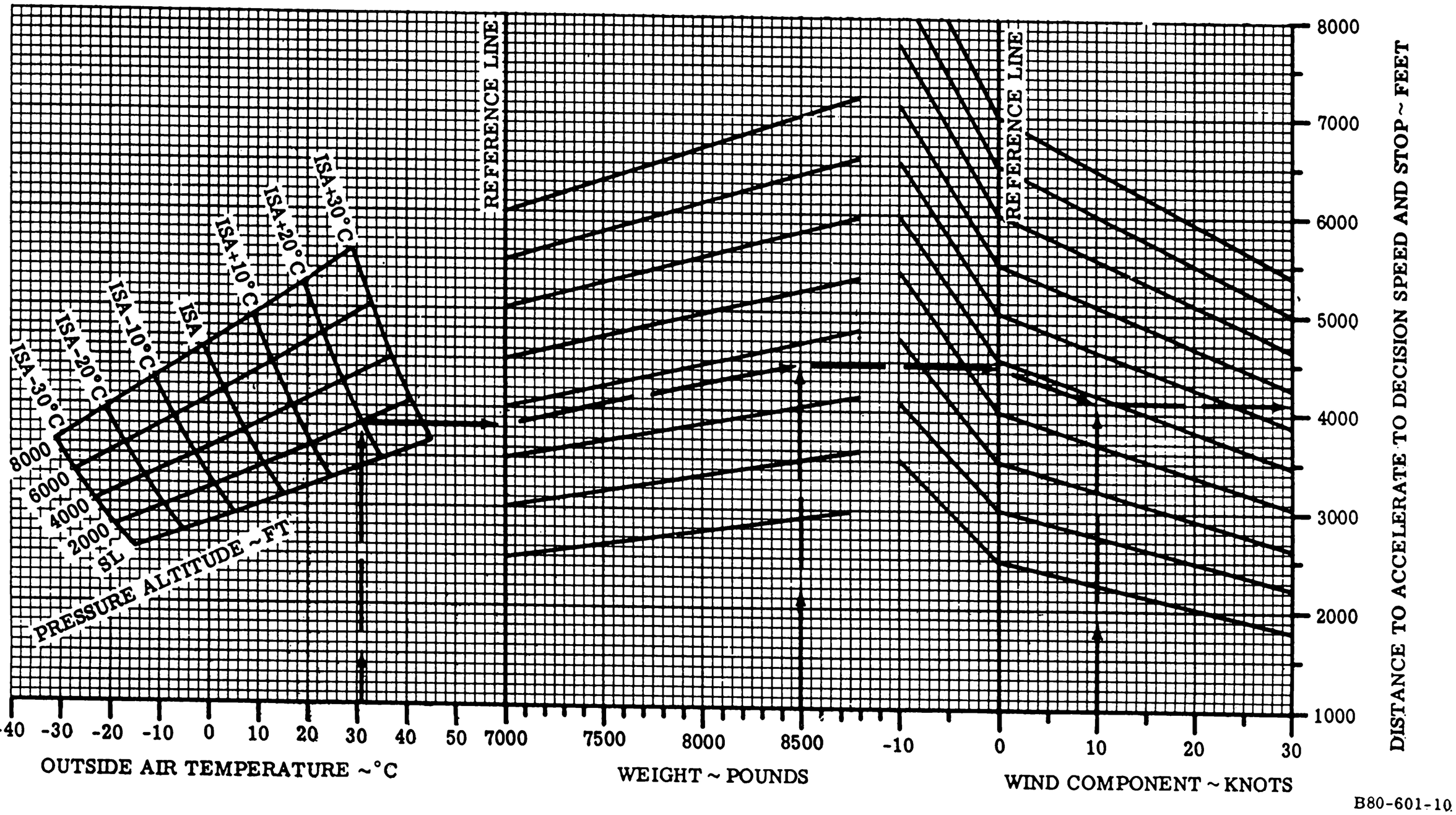
ASSOCIATED CONDITIONS:

POWER	1. TAKE-OFF POWER SET BEFORE BRAKE RELEASE 2. ENGINES IDLE AT DECISION SPEED
FLAPS	UP
GEAR	DOWN
BRAKING	MAXIMUM
RUNWAY	PAVED, LEVEL, DRY SURFACE

WEIGHT POUNDS	IAS DECISION SPEED (ASSUMES ZERO INSTRUMENT ERROR)	
	MPH	KNOTS
8800	108	94
8500	106	92
8000	104	90
7500	100	87
7000	98	85

EXAMPLE:

OAT	31°C
PRESSURE ALTITUDE	2000 FT
TAKE-OFF WEIGHT	8500 LBS
WIND COMPONENT	10 KNOTS
ACCELERATE AND STOP DISTANCE	4100 FT
IAS DECISION SPEED	106 MPH 92 KNOTS



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SINGLE ENGINE TAKE-OFF

ASSOCIATED CONDITIONS:

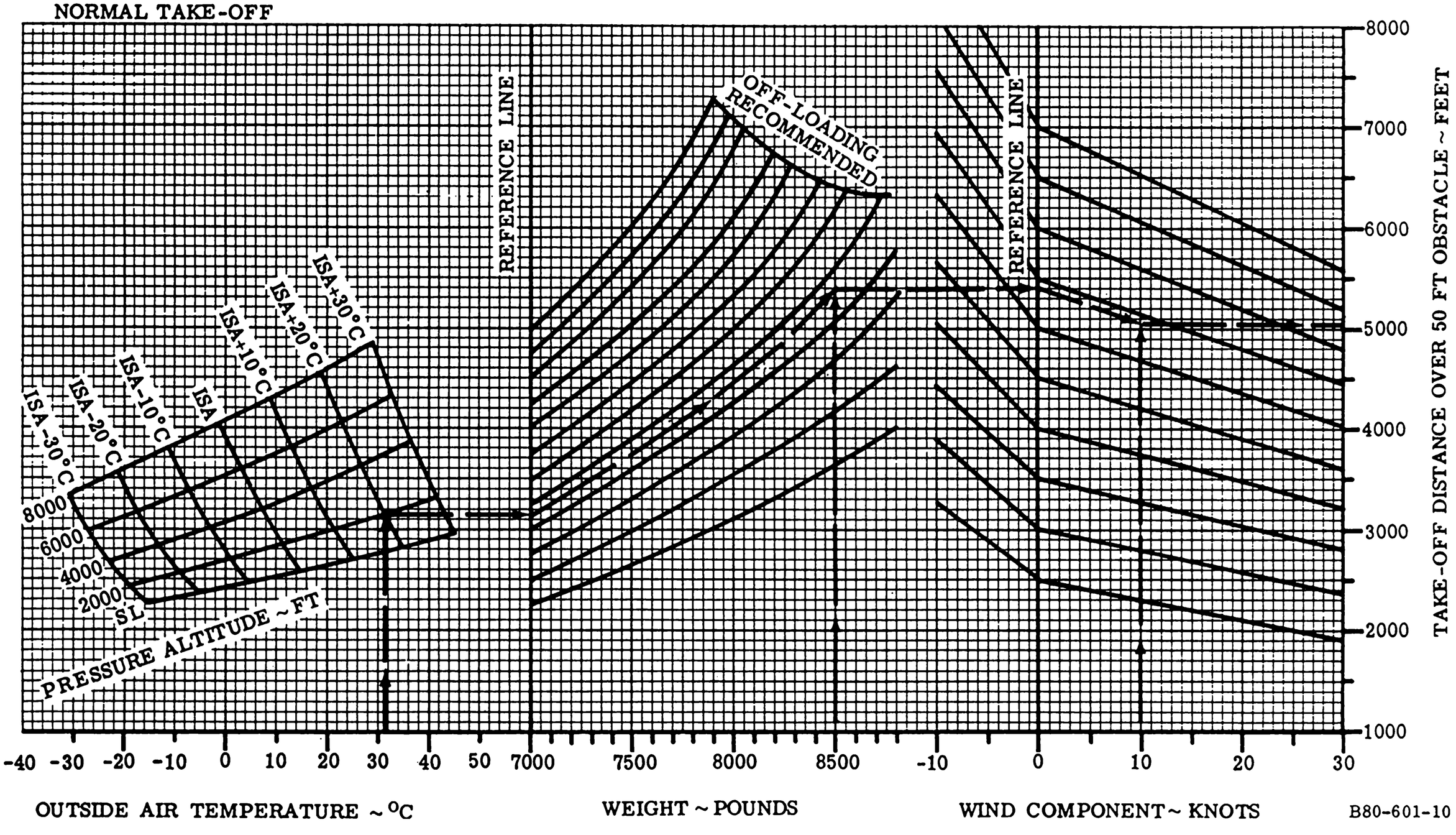
POWER	TAKE-OFF POWER SET BEFORE BRAKE RELEASE
FLAPS	UP
GEAR	RETRACTED AFTER LIFT-OFF
RUNWAY	PAVED, LEVEL, DRY SURFACE
TAKE-OFF SPEED	IAS AS TABULATED

NOTE: 1. DISTANCES ASSUME AN ENGINE FAILURE AT LIFT-OFF AND PROPELLER IMMEDIATELY FEATHERED.
2. GROUND ROLL IS SAME AS FOR NORMAL TAKE-OFF

WEIGHT POUNDS	IAS TAKE-OFF SPEED (ASSUME ZERO INSTRUMENT ERROR)	
	MPH	KNOTS
8800	108	94
8500	106	92
8000	104	90
7500	100	87
7000	98	85

EXAMPLE:

OAT	31°C
PRESSURE ALTITUDE	2000 FT
TAKE-OFF WEIGHT	8500 LBS
WIND COMPONENT	10 KNOTS
TOTAL DISTANCE OVER 50 FT OBSTACLE	5050 FT
IAS TAKE-OFF SPEED	106 MPH 92 KTS



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OBSTACLE TAKE-OFF

ASSOCIATED CONDITIONS:

POWER	TAKE-OFF POWER SET BEFORE BRAKE RELEASE
FLAPS	65%
GEAR	RETRACTED AFTER LIFT-OFF
RUNWAY	PAVED, LEVEL, DRY SURFACE
TAKE-OFF SPEED	IAS AS TABULATED

NOTE: GROUND ROLL IS APPROXIMATELY 76% OF TOTAL TAKE-OFF DISTANCE OVER 50 FT OBSTACLE

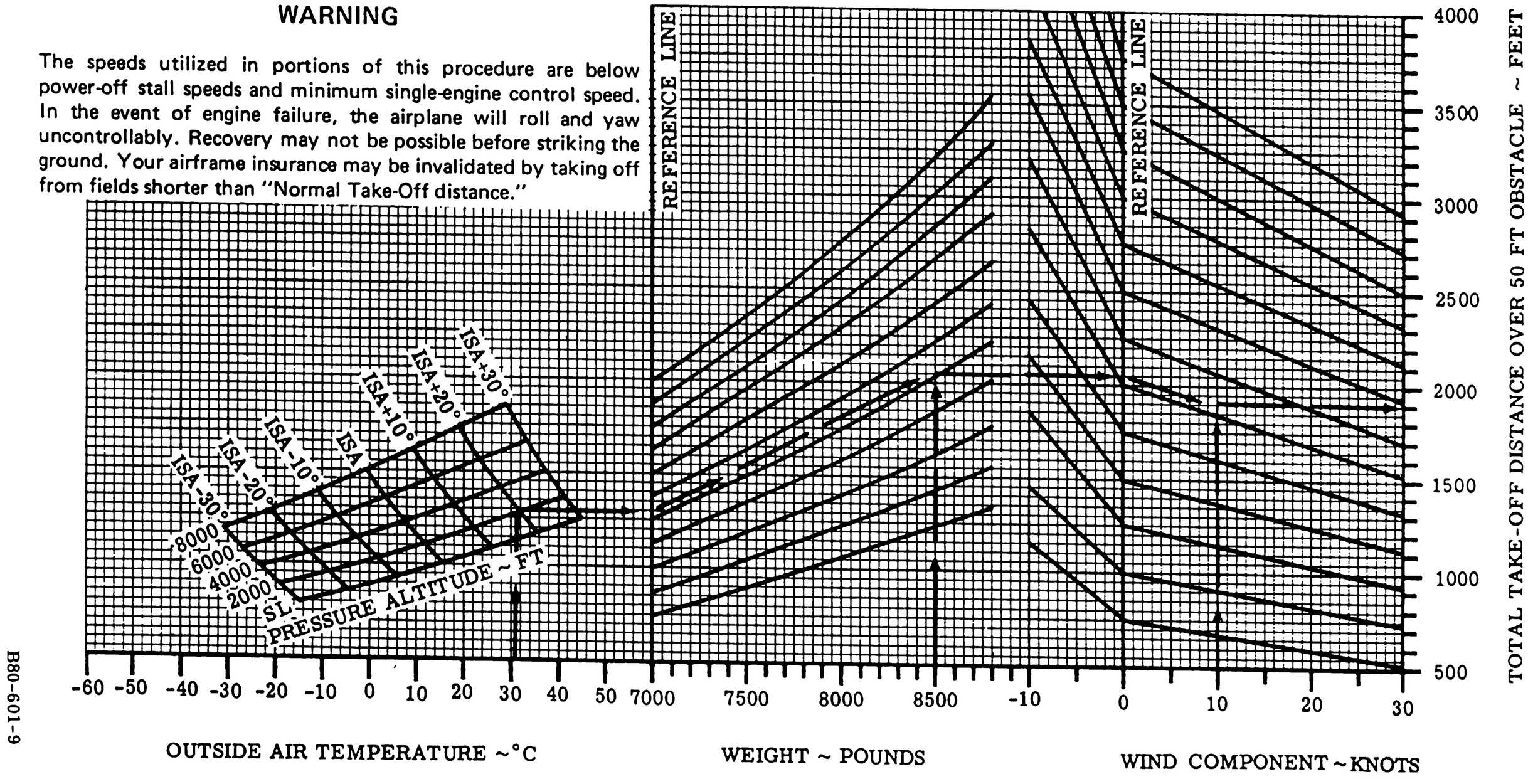
WEIGHT POUNDS	IAS TAKE-OFF SPEED (ASSUME ZERO INSTRUMENT ERROR)	
	MPH	KNOTS
8800	87	76
8500	85	74
8000	83	72
7500	79	69
7000	77	67

EXAMPLE:

OAT	31°C
PRESSURE ALTITUDE	2000 FT
TAKE-OFF WEIGHT	8500 LBS
WIND COMPONENT	10 KNOTS
TOTAL TAKE-OFF DISTANCE OVER 50 FT OBSTACLE	1900 FT
GROUND ROLL (76% OF 1900)	1444 FT
IAS TAKE-OFF SPEED	85 MPH 74 KNOTS

WARNING

The speeds utilized in portions of this procedure are below power-off stall speeds and minimum single-engine control speed. In the event of engine failure, the airplane will roll and yaw uncontrollably. Recovery may not be possible before striking the ground. Your airframe insurance may be invalidated by taking off from fields shorter than "Normal Take-Off distance."



OBSTACLE LANDING

ASSOCIATED CONDITIONS:

POWER	AS REQUIRED TO MAINTAIN 800 FT/MIN DESCENT ON APPROACH
FLAPS	100%
GEAR	DOWN
RUNWAY	PAVED, LEVEL, DRY SURFACE
APPROACH SPEED	IAS AS TABULATED
BRAKING	MAXIMUM

NOTE: GROUND ROLL IS APPROX. 58% OF TOTAL LANDING DISTANCE OVER 50 FT OBSTACLE.

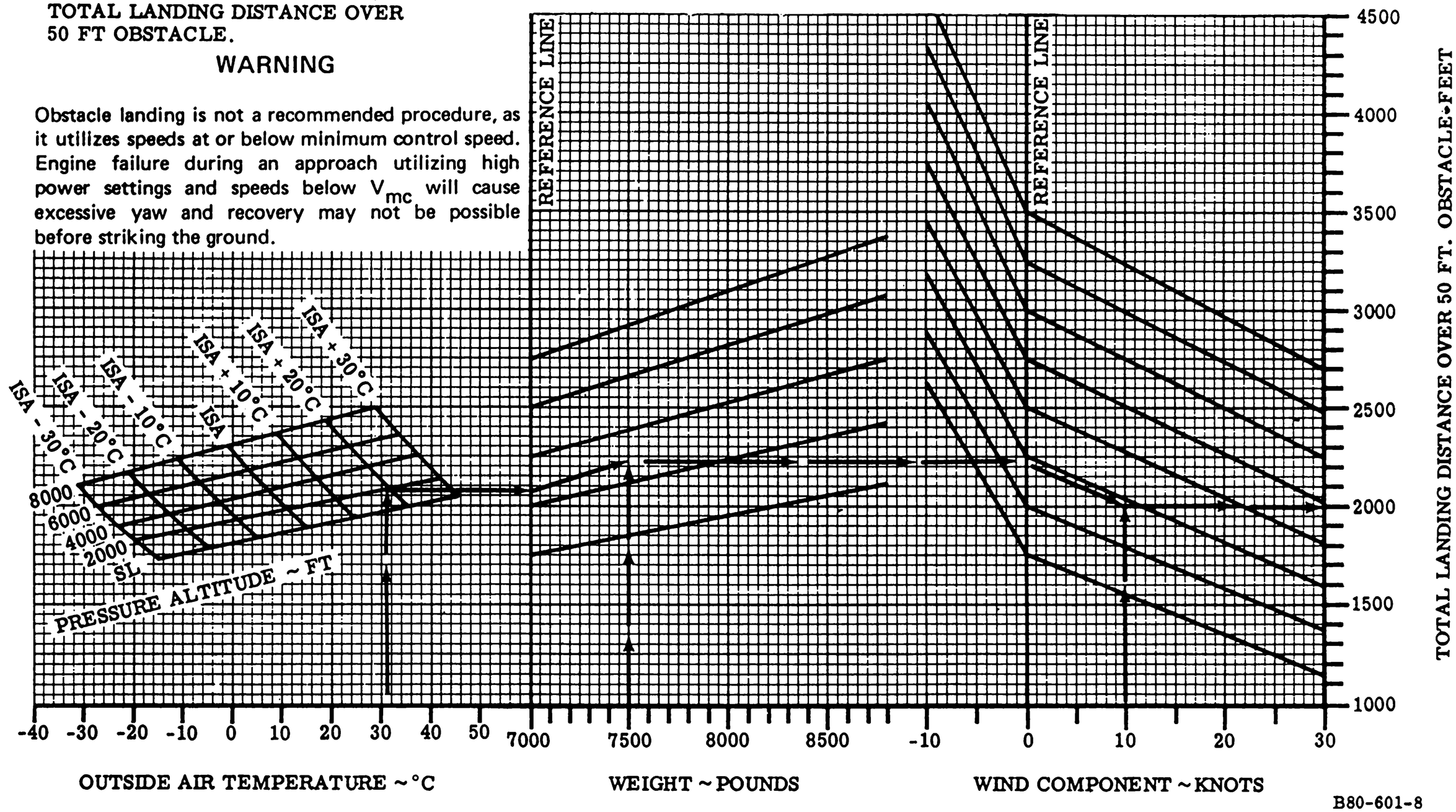
WEIGHT POUNDS	IAS APPROACH SPEED (ASSUMES ZERO INSTRUMENT ERROR)	
	MPH	KNOTS
8800	97	84
8500	94	82
8000	90	79
7500	89	77
7000	85	74

EXAMPLE:

OAT	31°C
PRESSURE ALTITUDE	2000 FT
LANDING WEIGHT	7500 LBS
WIND COMPONENT	10 KNOTS
TOTAL LANDING DISTANCE OVER 50 FT OBSTACLE	2000 FT
GROUND ROLL (58% OF 2000)	1160 FT
IAS APPROACH SPEED	89 MPH 77 KNOTS

WARNING

Obstacle landing is not a recommended procedure, as it utilizes speeds at or below minimum control speed. Engine failure during an approach utilizing high power settings and speeds below V_{mc} will cause excessive yaw and recovery may not be possible before striking the ground.



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SECTION VII

CRUISE CONTROL

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Queen Air B80 Supplemental Data

INTRODUCTION TO CRUISE CONTROL

The graphs and tables in this section present performance information for flight planning at various parameters of power, altitude and temperature. Graphs or tables are included for Cruise Climb, and Cruise at various power settings.

NOTE

For maximum engine life, it is recommended that cylinder head temperature for continuous cruise operation at and below 70% rated power be held to 435°F or less.

Calculations for flight time, block speed and fuel requirements for a proposed flight are detailed below.

CONDITIONS

Billings Field Elevation 3606 ft

Route of Trip:
BIL - V19 - CZ1 - V247 - DGW - V19E - CYS - V19 - DEN

Weather Conditions IFR for Cruise Altitude of 11,000 feet.

Route Segment	Magnetic Heading	Distance NM	MEA Feet	Wind at 11,000 ft	MAG. VAR.	OAT at 11,000 feet °C	OAT at MEA °C	Altimeter Setting
BIL - SHR	114°	88	8000	010/30	16°E	-5	0	29.56
SHR - CZ1	136°	57	9000	350/40	15°E	-5	-4	29.60
CZ1 - DGW	131°	95	8000	040/45	15°E	-5	0	29.60
DGW - CYS	138° 169°	47 46	8000 8000	040/45 040/45	14°E 14°E	-5 -5	0 0	29.60 29.60
CYS - DEN	166°	81	8000	040/45	14°E	-5	0	29.60

REFERENCE: Enroute Low Altitude Charts L-8 and L-9

Enter the graph for ISA conversion, page 7-5, at the condition indicated:

Enroute:	Pressure Altitude (Approx.)	=	11,000 feet
	OAT	=	-5°C
	ISA Condition	=	ISA + 2°C

Enter the graph for Cruise Climb, page 7-6, at 3606 and 11,000 feet, 8800 pounds:

Time to Climb	=	14 - 4	= 10 min
Fuel Used to Climb	=	120 - 40	= 80 lbs
Distance Traveled	=	38 - 11	= 27 NM

Enter Cruise Power Settings table for 65% Maximum Continuous Power, page 7-10 at 11,000 feet. Read Cruise data at ISA and ISA + 20°C.

	ISA	ISA + 20°C
Engine Speed - RPM	2600	2600
Manifold Pressure Setting - in. Hg	30.9	31.7
Fuel Flow per Engine - lbs/hr	112	112
Cruise True Airspeed - knots	182	186

At ISA + 2°C and 11,000 feet:

Engine Speed = 2600 rpm
Manifold Pressure Setting = 31.0 in. Hg
Fuel Flow per Engine = 112 lbs/hr
Cruise True Airspeed = 182 knots

Time and fuel used were calculated at 65% Maximum Continuous Power as follows:

$$\text{Time} = \frac{\text{Distance}}{\text{Ground Speed}}$$

Fuel Used = (Time) (Total Fuel Flow)

Results are as follows:

Route	Distance	Estimated Ground Speed	Time At Cruise Altitude	Fuel Used For Cruise
	NM	Knots	Hrs: : Min	Lbs
BIL - SHR	61*	196	0 : 19	70
SHR - CZI	57	219	0 16	58
CZI - DGW	95	187	0 30	114
DGW - CYS	47 46	193 215	0 15 0 13	55 48
CYS - DEN	81	213	0 : 33	85

*Distance to Climb — subtracted from Segment Distance.

DETERMINATION OF FLIGHT TIME BLOCK SPEED AND FUEL REQUIREMENTS

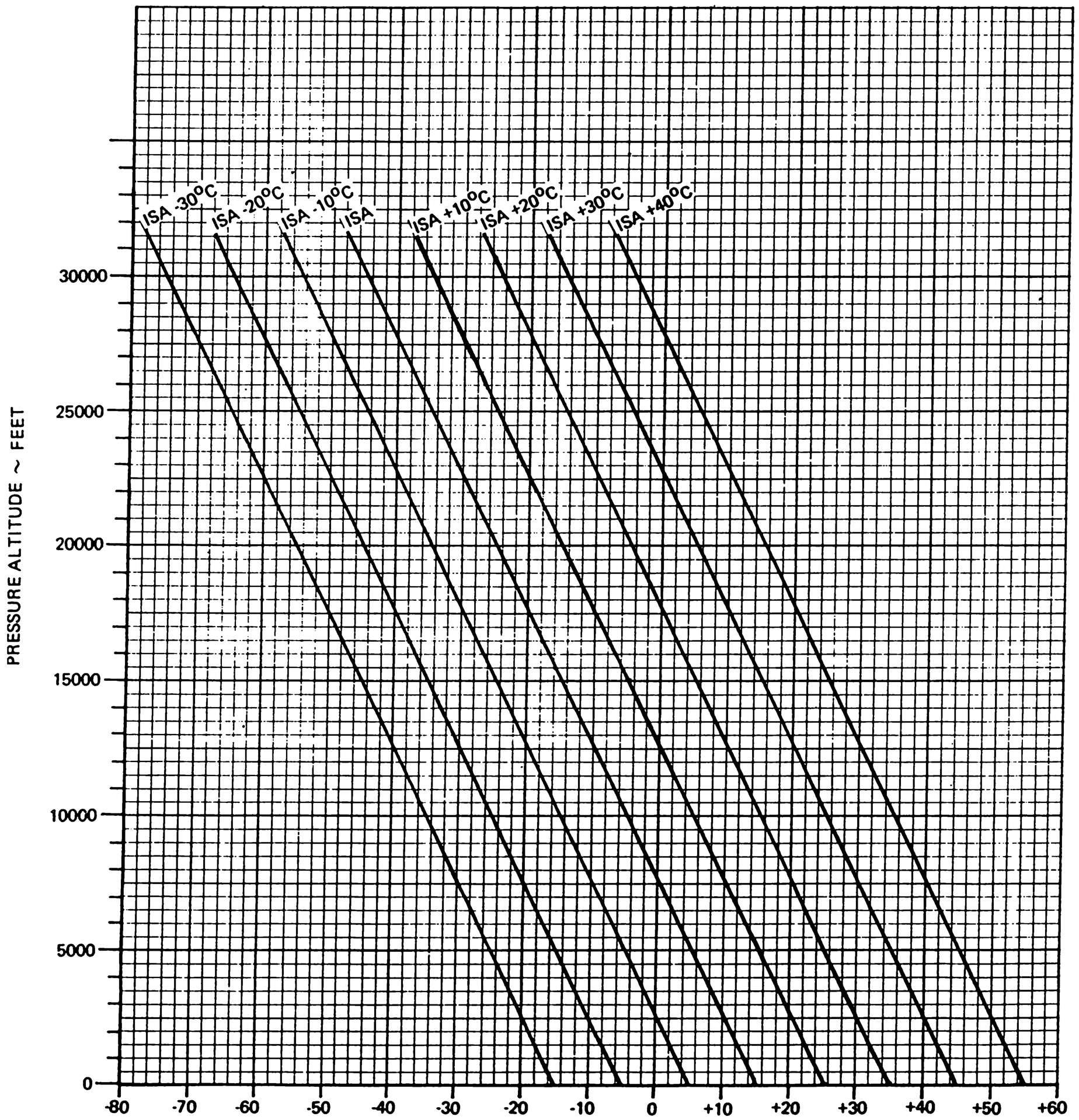
Item	Time Hrs: : Mins	Fuel Pounds	Distance Nautical Miles
Start, Runup, Taxi and Takeoff acceleration	0 00	55	0
Climb	0 10	80	27
Cruise	1 56	430	387
Total	2 : 06	565	414

Total Flight Time: 2 Hour, 06 Minutes

Block Speed: 414 NM – 2:06 = 197 knots

ISA CONVERSION

PRESSURE ALTITUDE VS OUTSIDE AIR TEMPERATURE



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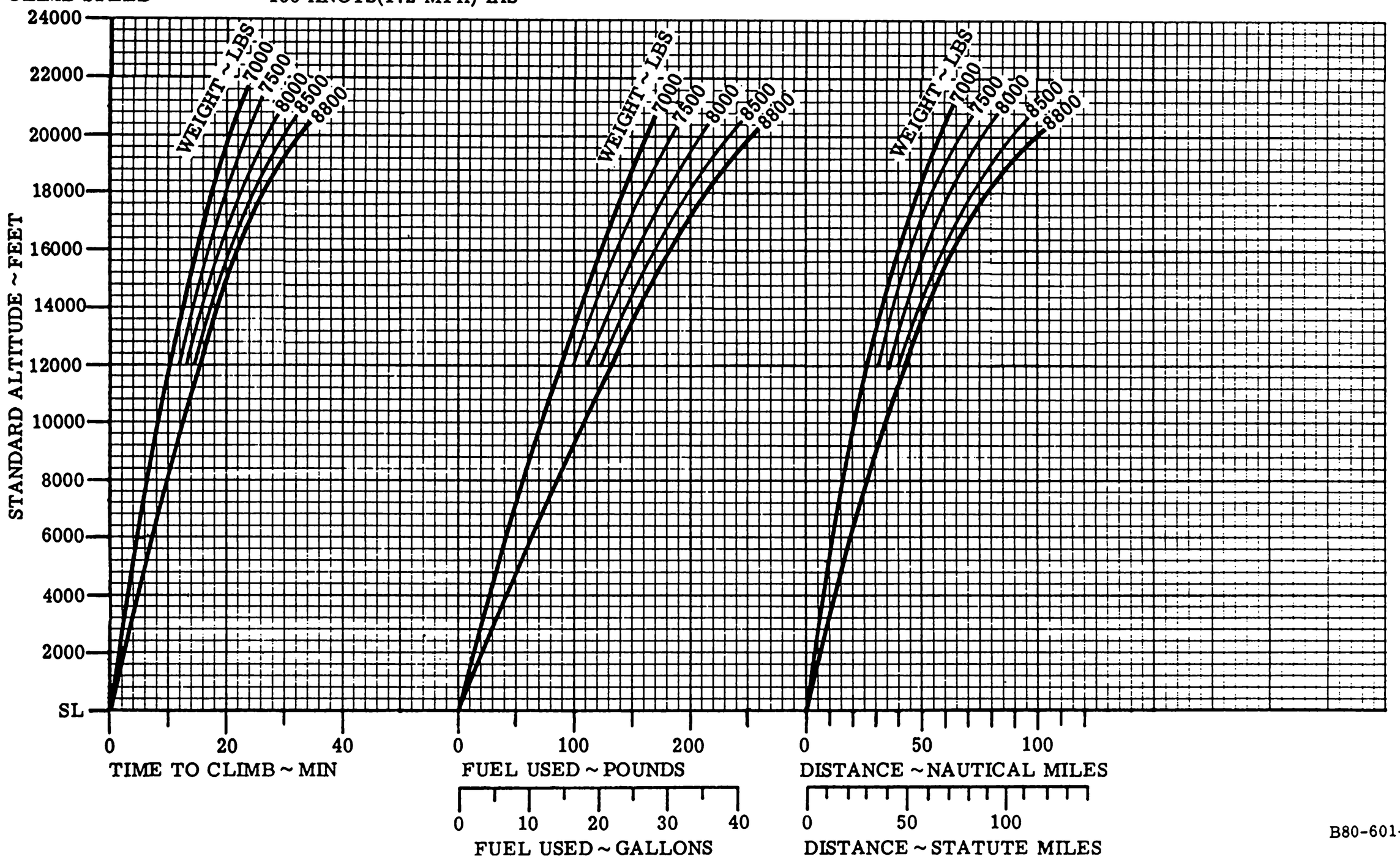
CRUISE CLIMB
TIME, FUEL, AND DISTANCE

STANDARD DAY (ISA)

ASSOCIATED CONDITIONS:

ENGINE SPEED	3000 RPM
MANIFOLD PRESSURE	37.5 IN.HG AT SL, REDUCE 1.0 IN.HG FOR EACH 4000 FT ABOVE SL; FULL THROTTLE ABOVE CRITICAL ALTITUDE
CLIMB SPEED	150 KNOTS(172 MPH) IAS



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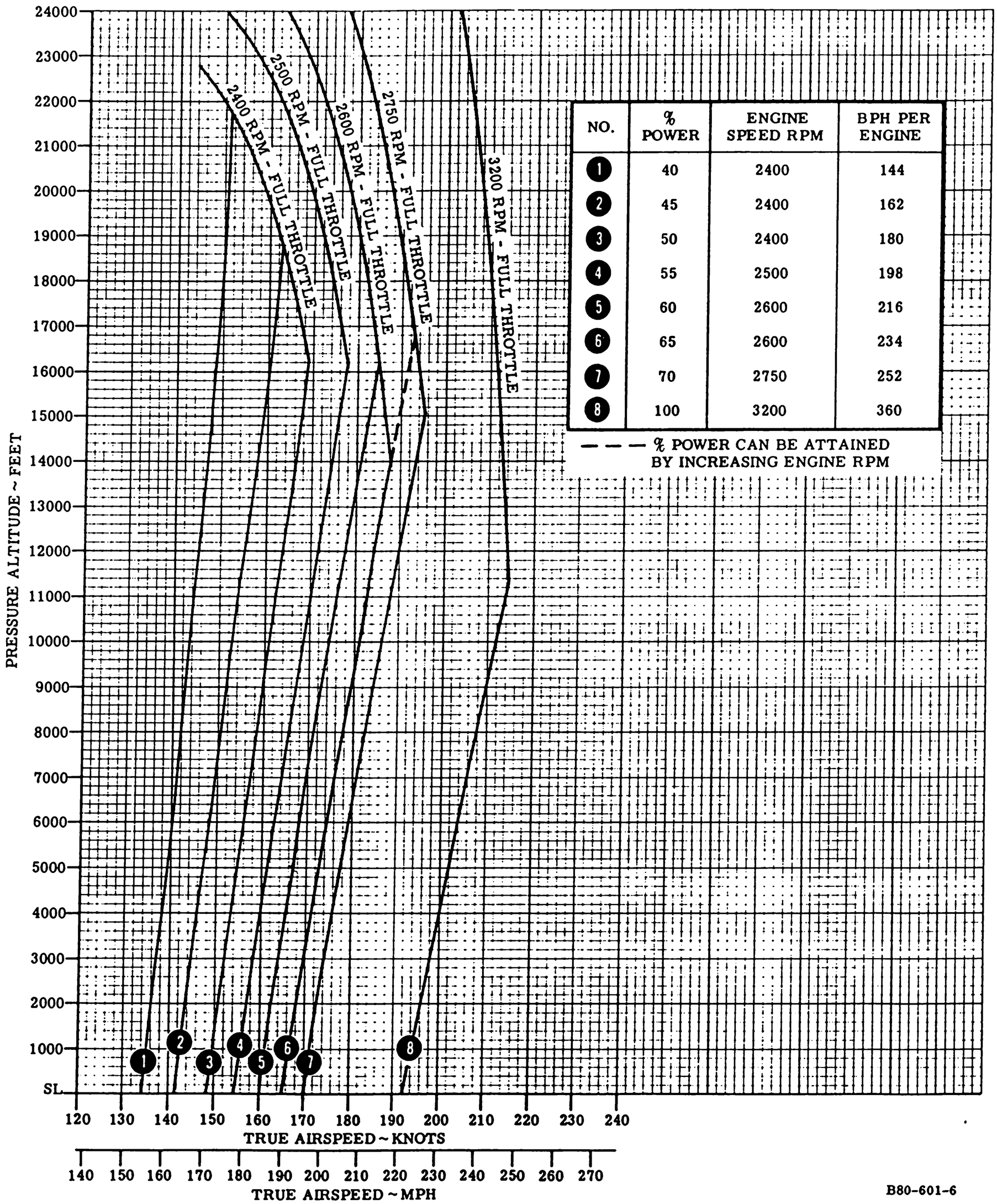
CRUISE OPERATION

STANDARD DAY (ISA)

WEIGHT 8000 LBS



NO.	% POWER	ENGINE SPEED RPM	BPH PER ENGINE
1	40	2400	144
2	45	2400	162
3	50	2400	180
4	55	2500	198
5	60	2600	216
6	65	2600	234
7	70	2750	252
8	100	3200	360

— — — % POWER CAN BE ATTAINED BY INCREASING ENGINE RPM

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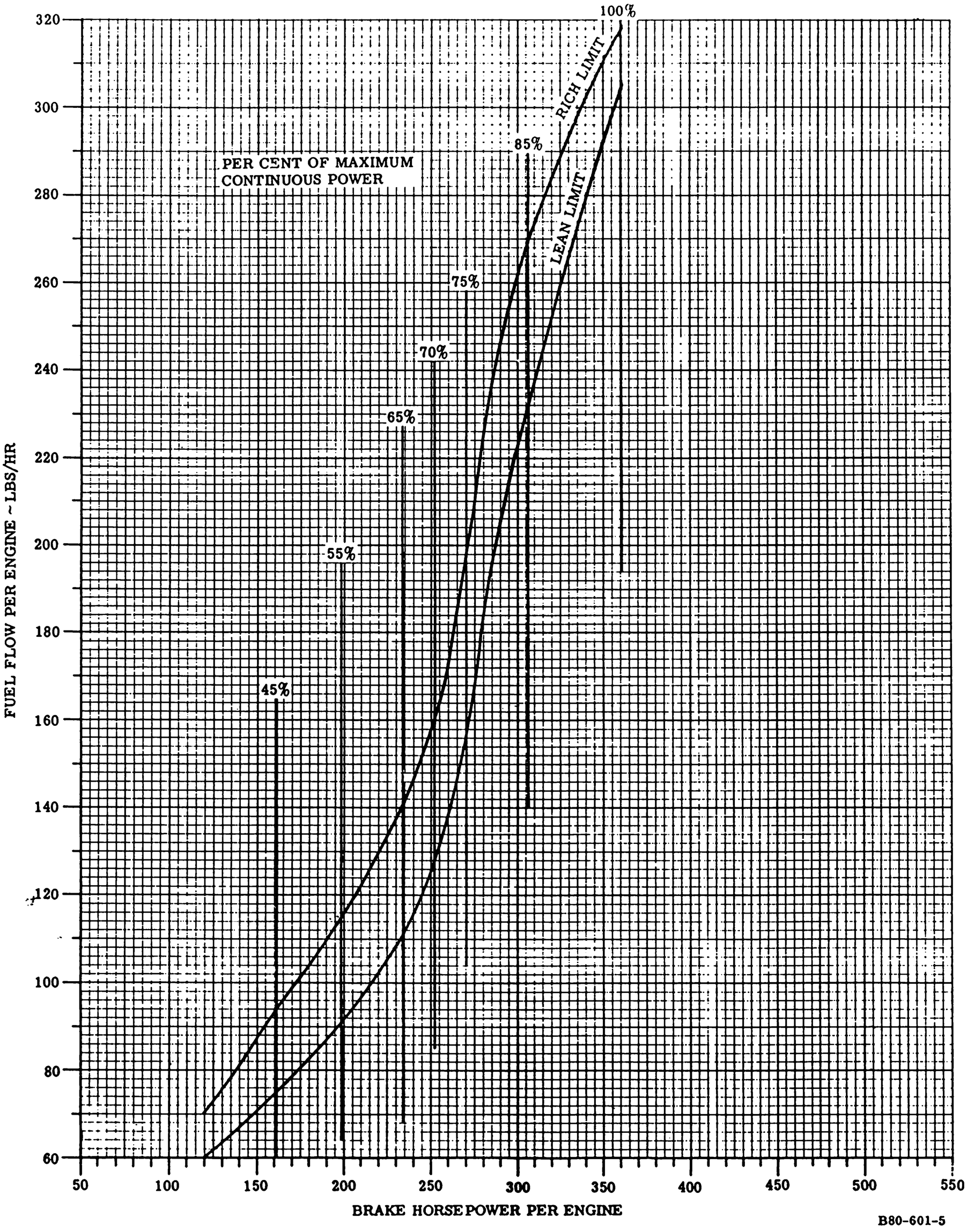
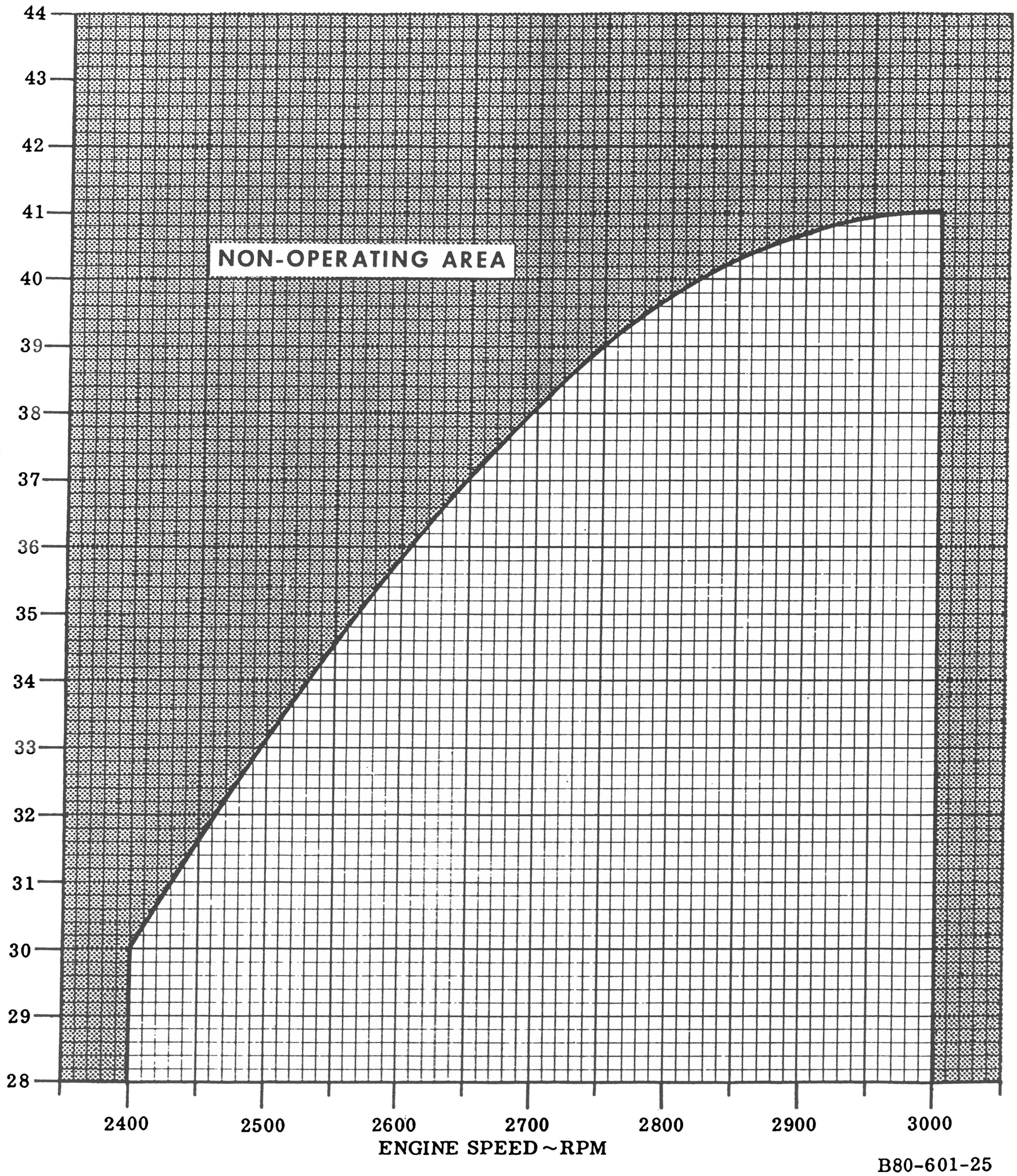
FUEL FLOW vs BRAKE HORSEPOWER



MANIFOLD PRESSURE Vs RPM

CRUISE POWER SETTINGS



B80-601-25

CRUISE POWER SETTINGS

70% MAXIMUM CONTINUOUS POWER OR FULL THROTTLE

PRESS ALT.	ISA -36°F (-20°C)								STANDARD DAY (ISA)								ISA +36°F (+20°C)							
	OAT		ENGINE SPEED	MAN. PRESS	FUEL FLOW PER ENGINE		TAS		OAT		ENGINE SPEED	MAN. PRESS	FUEL FLOW PER ENGINE		TAS		OAT		ENGINE SPEED	MAN PRESS	FUEL FLOW PER ENGINE		TAS	
FEET	°F	°C	RPM	IN HG	PPH	GPH	KTS	MPH	°F	°C	RPM	IN HG	PPH	GPH	KTS	MPH	°F	°C	RPM	IN HG	PPH	GPH	KTS	MPH
SL	23	-5	2750	32.8	128.0	21.3	165	190	59	15	2750	33.9	128.0	21.3	169	195	95	35	2750	34.6	128.0	21.3	173	199
1000	19	-7	2750	32.6	128.0	21.3	167	192	55	13	2750	33.6	128.0	21.3	171	197	91	33	2750	34.4	128.0	21.3	174	200
2000	16	-9	2750	32.4	128.0	21.3	169	194	52	11	2750	33.3	128.0	21.3	173	199	88	31	2750	34.2	128.0	21.3	176	202
3000	12	-11	2750	32.2	128.0	21.3	170	196	48	9	2750	33.1	128.0	21.3	175	201	84	29	2750	34.0	128.0	21.3	177	204
4000	9	-13	2750	32.0	128.0	21.3	171	197	45	7	2750	32.8	128.0	21.3	176	203	81	27	2750	33.8	128.0	21.3	179	206
5000	5	-15	2750	31.8	128.0	21.3	173	199	41	5	2750	32.6	128.0	21.3	177	204	77	25	2750	33.6	128.0	21.3	182	209
6000	2	-17	2750	31.6	128.0	21.3	175	201	38	3	2750	32.4	128.0	21.3	179	206	74	23	2750	33.3	128.0	21.3	183	211
7000	-2	-19	2750	31.3	128.0	21.3	176	203	34	1	2750	32.2	128.0	21.3	181	208	70	21	2750	33.1	128.0	21.3	185	213
8000	-5	-21	2750	31.1	128.0	21.3	178	205	31	-1	2750	32.0	128.0	21.3	182	210	67	19	2750	32.9	128.0	21.3	187	215
9000	-9	-23	2750	30.8	128.0	21.3	180	207	27	-3	2750	31.8	128.0	21.3	184	212	63	17	2750	32.6	128.0	21.3	189	217
10,000	-13	-25	2750	30.6	128.0	21.3	182	209	23	-5	2750	31.6	128.0	21.3	186	214	59	15	2750	32.4	128.0	21.3	190	219
11,000	-16	-27	2750	30.4	128.0	21.3	183	211	20	-7	2750	31.4	128.0	21.3	188	216	56	13	2750	32.2	128.0	21.3	192	221
12,000	-20	-29	2750	30.2	128.0	21.3	185	213	16	-9	2750	31.2	128.0	21.3	189	218	52	11	2750	32.0	128.0	21.3	194	223
13,000	-23	-31	2750	30.0	128.0	21.3	187	215	13	-11	2750	31.0	128.0	21.3	191	220	49	9	2750	31.8	128.0	21.3	196	225
14,000	-27	-33	2750	29.8	128.0	21.3	189	217	9	-13	2750	30.8	128.0	21.3	193	222	45	7	2750	31.5	127.0	21.1	197	227
15,000	-30	-35	2750	29.6	128.0	21.3	190	219	6	-15	2750	30.4	126.0	21.0	203	234	42	5	2750	30.5	116.0	19.4	199	229

NOTES: 1. FULL THROTTLE MANIFOLD PRESSURE SETTINGS ARE APPROXIMATE
2. ACTUAL BRAKE HORSEPOWER FOR FULL THROTTLE CONDITIONS MAY BE DETERMINED BY ENTERING THE GRAPH OF FUEL FLOW VS BRAKE HORSEPOWER AT THE APPROPRIATE FUEL FLOW

CRUISE POWER SETTINGS

65% MAXIMUM CONTINUOUS POWER OR FULL THROTTLE

PRESS ALT.	ISA -36°F (-20°C)								STANDARD DAY (ISA)								ISA +36°F (+20°C)							
	OAT		ENGINE SPEED	MAN. PRESS	FUEL FLOW PER ENGINE		TAS		OAT		ENGINE SPEED	MAN. PRESS	FUEL FLOW PER ENGINE		TAS		OAT		ENGINE SPEED	MAN PRESS	FUEL FLOW PER ENGINE		TAS	
FEET	°F	°C	RPM	IN HG	PPH	GPH	KTS	MPH	°F	°C	RPM	IN HG	PPH	GPH	KTS	MPH	°F	°C	RPM	IN HG	PPH	GPH	KTS	MPH
SL	23	-5	2600	32.6	112.0	18.7	161	185	59	15	2600	33.6	112.0	18.7	164	189	95	35	2600	34.4	112.0	18.7	168	193
1000	19	-7	2600	32.3	112.0	18.7	163	187	55	13	2600	33.3	112.0	18.7	166	191	91	33	2600	34.1	112.0	18.7	169	195
2000	16	-9	2600	32.1	112.0	18.7	164	189	52	11	2600	33.0	112.0	18.7	168	193	88	31	2600	33.9	112.0	18.7	171	197
3000	12	-11	2600	31.8	112.0	18.7	165	190	48	9	2600	32.7	112.0	18.7	169	195	84	29	2600	33.6	112.0	18.7	173	199
4000	9	-13	2600	31.6	112.0	18.7	167	192	45	7	2600	32.4	112.0	18.7	171	197	81	27	2600	33.3	112.0	18.7	175	201
5000	5	-15	2600	31.4	112.0	18.7	169	194	41	5	2600	32.2	112.0	18.7	172	198	77	25	2600	33.0	112.0	18.7	176	203
6000	2	-17	2600	31.1	112.0	18.7	170	196	38	3	2600	32.0	112.0	18.7	174	200	74	23	2600	32.8	112.0	18.7	178	205
7000	-2	-19	2600	30.8	112.0	18.7	172	198	34	1	2600	31.8	112.0	18.7	176	202	70	21	2600	32.5	112.0	18.7	180	207
8000	-5	-21	2600	30.6	112.0	18.7	173	199	31	-1	2600	31.6	112.0	18.7	177	204	67	19	2600	32.3	112.0	18.7	181	209
9000	-9	-23	2600	30.4	112.0	18.7	175	201	27	-3	2600	31.4	112.0	18.7	179	206	63	17	2600	32.1	112.0	18.7	183	211
10,000	-13	-25	2600	30.2	112.0	18.7	176	203	23	-5	2600	31.2	112.0	18.7	181	208	59	15	2600	31.9	112.0	18.7	184	212
11,000	-16	-27	2600	30.0	112.0	18.7	178	205	20	-7	2600	30.9	112.0	18.7	182	210	56	13	2600	31.7	112.0	18.7	186	214
12,000	-20	-29	2600	29.8	112.0	18.7	179	206	16	-9	2600	30.6	112.0	18.7	184	212	52	11	2600	31.5	112.0	18.7	188	216
13,000	-23	-31	2600	29.6	112.0	18.7	181	208	13	-11	2600	30.3	112.0	18.7	186	214	49	9	2600	31.2	110.0	18.3	189	218
14,000	-27	-33	2600	29.4	112.0	18.7	182	210	9	-13	2600	30.0	110.0	18.3	188	216	45	7	2600	30.0	105.0	17.5	191	220
15,000	-30	-35	2600	29.2	112.0	18.7	184	212	6	-15	2600	29.0	105.0	17.5	189	218	42	5	2600	28.9	100.0	16.7	193	222

NOTES: 1. FULL THROTTLE MANIFOLD PRESSURE SETTINGS ARE APPROXIMATE
2. ACTUAL BRAKE HORSEPOWER FOR FULL THROTTLE CONDITIONS MAY BE DETERMINED BY ENTERING THE GRAPH OF FUEL FLOW VS BRAKE HORSEPOWER AT THE APPROPRIATE FUEL FLOW

CRUISE POWER SETTINGS

55% MAXIMUM CONTINUOUS POWER OR FULL THROTTLE

PRESS ALT.	ISA -36°F (-20°C)								STANDARD DAY (ISA)								ISA +36°F (+20°C)							
	OAT		ENGINE SPEED	MAN. PRESS	FUEL FLOW PER ENGINE		TAS		OAT		ENGINE SPEED	MAN. PRESS	FUEL FLOW PER ENGINE		TAS		OAT		ENGINE SPEED	MAN PRESS	FUEL FLOW PER ENGINE		TAS	
FEET	°F	°C	RPM	IN HG	PPH	GPH	KTS	MPH	°F	°C	RPM	IN HG	PPH	GPH	KTS	MPH	°F	°C	RPM	IN HG	PPH	GPH	KTS	MPH
SL	23	-5	2500	29.4	90.0	15.0	151	174	59	15	2500	30.1	90.0	15.0	154	177	95	35	2500	31.0	90.0	15.0	157	181
1000	19	-7	2500	29.2	90.0	15.0	152	175	55	13	2500	29.9	90.0	15.0	156	179	91	33	2500	30.7	90.0	15.0	159	183
2000	16	-9	2500	29.0	90.0	15.0	154	177	52	11	2500	29.7	90.0	15.0	157	181	88	31	2500	30.5	90.0	15.0	160	184
3000	12	-11	2500	28.8	90.0	15.0	155	178	48	9	2500	29.5	90.0	15.0	158	182	84	29	2500	30.2	90.0	15.0	162	186
4000	9	-13	2500	28.5	90.0	15.0	156	180	45	7	2500	29.3	90.0	15.0	160	184	81	27	2500	30.2	90.0	15.0	163	188
5000	5	-15	2500	28.3	90.0	15.0	158	182	41	5	2500	29.1	90.0	15.0	161	185	77	25	2500	29.8	90.0	15.0	164	189
6000	2	-17	2500	28.1	90.0	15.0	159	183	38	3	2500	28.9	90.0	15.0	163	187	74	23	2500	29.6	90.0	15.0	166	191
7000	-2	-19	2500	27.9	90.0	15.0	161	185	34	1	2500	28.7	90.0	15.0	164	189	70	21	2500	29.4	90.0	15.0	168	193
8000	-5	-21	2500	27.7	90.0	15.0	162	186	31	-1	2500	28.5	90.0	15.0	165	190	67	19	2500	29.2	90.0	15.0	169	194
9000	-9	-23	2500	27.5	90.0	15.0	163	188	27	-3	2500	28.3	90.0	15.0	167	192	63	17	2500	29.0	90.0	15.0	170	196
10,000	-13	-25	2500	27.3	90.0	15.0	164	189	23	-5	2500	28.1	90.0	15.0	169	194	59	15	2500	28.8	90.0	15.0	171	197
11,000	-16	-27	2500	27.1	90.0	15.0	166	191	20	-7	2500	27.9	90.0	15.0	170	195	56	13	2500	28.6	90.0	15.0	173	199
12,000	-20	-29	2500	26.9	90.0	15.0	168	193	16	-9	2500	27.7	90.0	15.0	171	197	52	11	2500	28.4	90.0	15.0	175	201
13,000	-23	-31	2500	26.7	90.0	15.0	169	194	13	-11	2500	27.5	90.0	15.0	173	199	49	9	2500	28.2	90.0	15.0	176	203
14,000	-27	-33	2500	26.5	90.0	15.0	170	196	9	-13	2500	27.3	90.0	15.0	174	200	45	7	2500	28.0	90.0	15.0	177	204
15,000	-30	-35	2500	26.3	90.0	15.0	172	198	6	-15	2500	27.1	90.0	15.0	176	202	42	5	2500	27.8	90.0	15.0	179	206

NOTES: 1. FULL THROTTLE MANIFOLD PRESSURE SETTINGS ARE APPROXIMATE
2. ACTUAL BRAKE HORSEPOWER FOR FULL THROTTLE CONDITIONS MAY BE DETERMINED BY ENTERING THE GRAPH OF FUEL FLOW VS BRAKE HORSEPOWER AT THE APPROPRIATE FUEL FLOW

CRUISE POWER SETTINGS

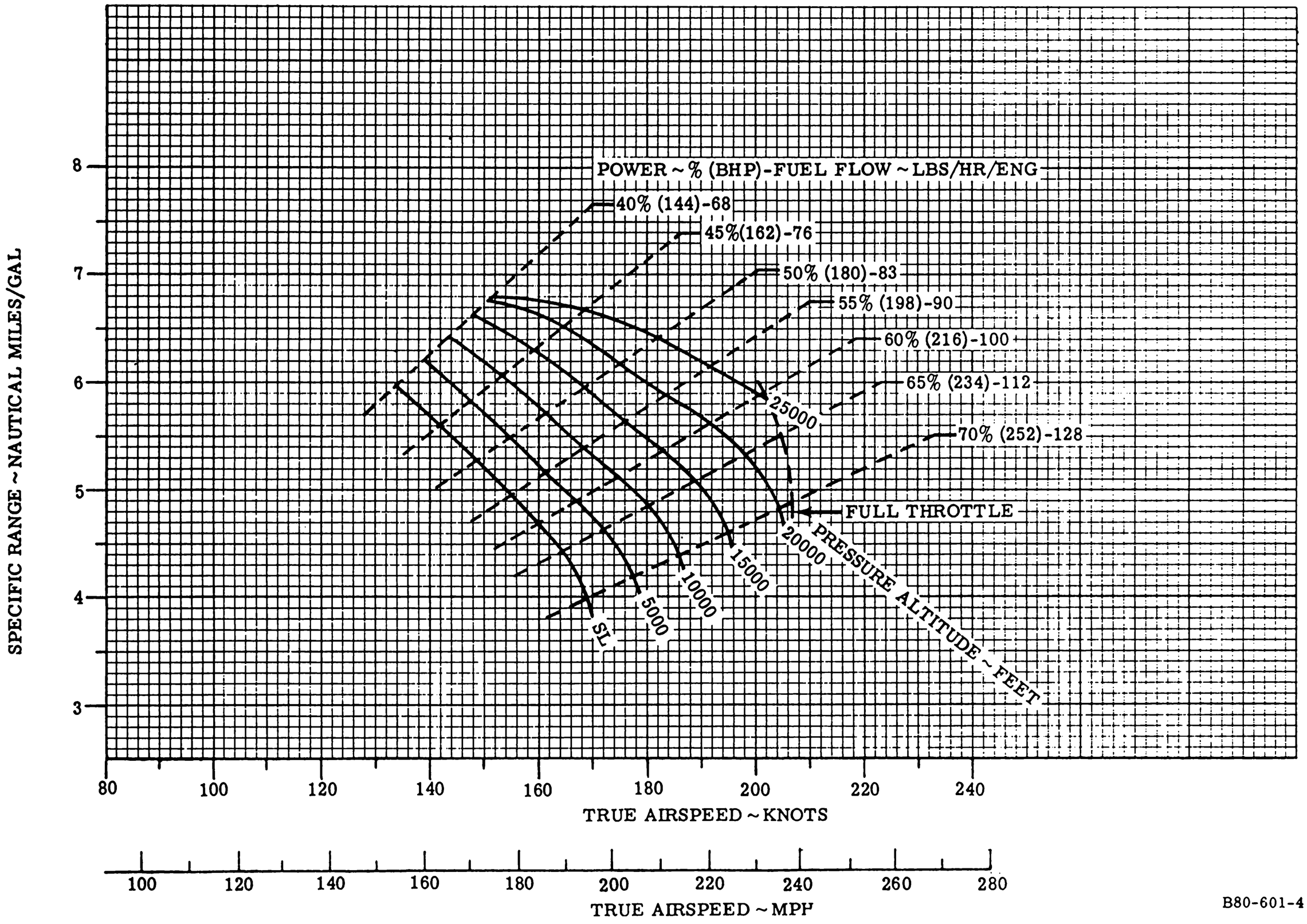
45% MAXIMUM CONTINUOUS POWER OR FULL THROTTLE

PRESS ALT.	ISA -36°F (-20°C)								STANDARD DAY (ISA)								ISA +36°F (+20°C)							
	OAT		ENGINE SPEED	MAN. PRESS	FUEL FLOW PER ENGINE		TAS		OAT		ENGINE SPEED	MAN. PRESS	FUEL FLOW PER ENGINE		TAS		OAT		ENGINE SPEED	MAN PRESS	FUEL FLOW PER ENGINE		TAS	
FEET	°F	°C	RPM	IN HG	PPH	GPH	KTS	MPH	°F	°C	RPM	IN HG	PPH	GPH	KTS	MPH	°F	°C	RPM	IN HG	PPH	GPH	KTS	MPH
SL	23	-5	2400	26.0	77.0	12.8	139	160	59	15	2400	26.7	77.0	12.8	142	163	95	35	2400	27.4	77.0	12.8	145	167
1000	19	-7	2400	25.8	77.0	12.8	140	161	55	13	2400	26.5	77.0	12.8	143	164	91	33	2400	27.2	77.0	12.8	146	168
2000	16	-9	2400	26.5	77.0	12.8	141	162	52	11	2400	26.3	77.0	12.8	144	166	88	31	2400	26.9	77.0	12.8	147	169
3000	12	-11	2400	25.4	77.0	12.8	142	163	48	9	2400	26.1	77.0	12.8	145	167	84	29	2400	26.7	77.0	12.8	148	170
4000	9	-13	2400	25.2	77.0	12.8	143	165	45	7	2400	25.9	77.0	12.8	146	168	81	27	2400	26.5	77.0	12.8	149	172
5000	5	-15	2400	25.0	77.0	12.8	144	166	41	5	2400	25.7	77.0	12.8	148	170	77	25	2400	26.3	77.0	12.8	150	173
6000	2	-17	2400	24.8	77.0	12.8	145	167	38	3	2400	25.5	77.0	12.8	149	171	74	23	2400	26.1	77.0	12.8	151	174
7000	-2	-19	2400	24.6	77.0	12.8	147	169	34	1	2400	25.3	77.0	12.8	150	172	70	21	2400	25.9	77.0	12.8	153	176
8000	-5	-21	2400	24.4	77.0	12.8	148	170	31	-1	2400	25.1	77.0	12.8	151	174	67	19	2400	25.7	77.0	12.8	154	177
9000	-9	-23	2400	24.2	77.0	12.8	149	171	27	-3	2400	24.9	77.0	12.8	152	175	63	17	2400	25.5	77.0	12.8	155	178
10,000	-13	-25	2400	24.0	77.0	12.8	150	173	23	-5	2400	24.7	77.0	12.8	154	177	59	15	2400	25.3	77.0	12.8	156	180
11,000	-16	-27	2400	23.9	77.0	12.8	151	174	20	-7	2400	24.5	77.0	12.8	155	178	56	13	2400	25.1	77.0	12.8	157	181
12,000	-20	-29	2400	23.7	77.0	12.8	153	176	16	-9	2400	24.3	77.0	12.8	156	179	52	11	2400	25.0	77.0	12.8	158	182
13,000	-23	-31	2400	23.5	77.0	12.8	154	177	13	-11	2400	24.1	77.0	12.8	157	181	49	9	2400	24.9	77.0	12.8	159	183
14,000	-27	-33	2400	23.3	77.0	12.8	156	179	9	-13	2400	24.0	77.0	12.8	158	182	45	7	2400	24.8	77.0	12.8	160	184
15,000	-30	-35	2400	23.1	77.0	12.8	156	180	6	-15	2400	23.9	77.0	12.8	160	184	42	5	2400	24.6	77.0	12.8	161	185

NOTES: 1. FULL THROTTLE MANIFOLD PRESSURE SETTINGS ARE APPROXIMATE
2. ACTUAL BRAKE HORSEPOWER FOR FULL THROTTLE CONDITIONS MAY BE DETERMINED BY ENTERING THE GRAPH OF FUEL FLOW VS BRAKE HORSEPOWER AT THE APPROPRIATE FUEL FLOW

SPECIFIC RANGE

STANDARD DAY (ISA)
WEIGHT 8000 LBS



B80-601-4

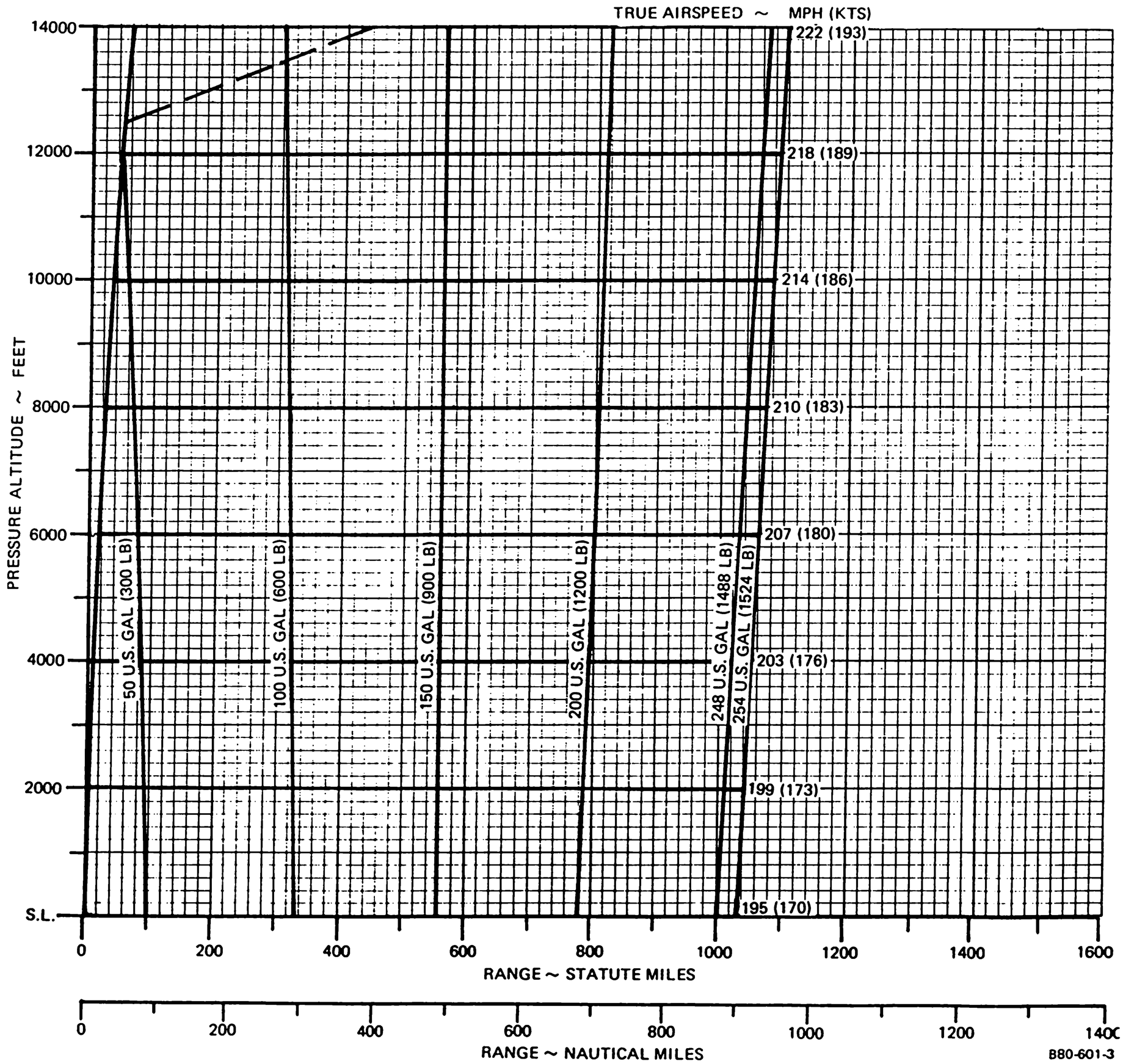
RANGE—70% MAXIMUM CONTINUOUS POWER

ASSOCIATED CONDITIONS:

TEMPERATURE	STANDARD DAY (ISA)
TAKE-OFF WEIGHT	8800 LBS
FUEL FLOW	128 LBS/HR/ENG (21.4 GAL/HR/ENG)
CLIMB POWER	REFER TO CRUISE CLIMB GRAPH
FUEL DENSITY	6.0 LBS/GAL

NOTE: RANGE INCLUDES START, TAXI, TAKE-OFF, CLIMB AND 45 MINUTES RESERVE FUEL AT 45% MAXIMUM CONTINUOUS POWER

— — ALTITUDE FOR SINGLE ENGINE RATE-OF-CLIMB OF 50 FT/MIN



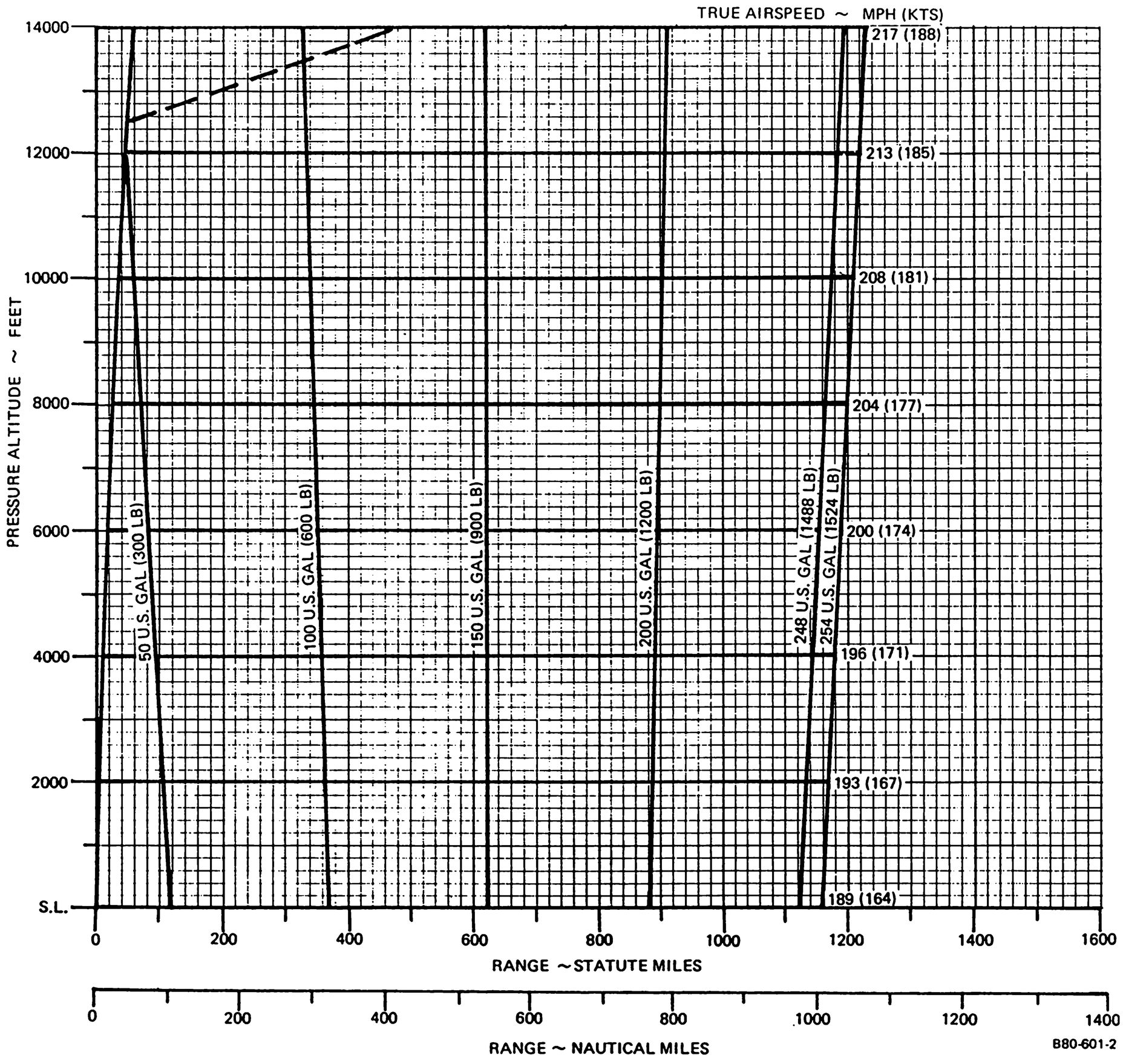
RANGE—65% MAXIMUM CONTINUOUS POWER

ASSOCIATED CONDITIONS:

TEMPERATURE	STANDARD DAY (ISA)
TAKE–OFF WEIGHT	8800 LBS
FUEL FLOW	111 LBS/HR/ENG (18.5 GAL/HR/ENG)
CLIMB POWER	REFER TO CRUISE CLIMB GRAPH
FUEL DENSITY	6.0 LBS/GAL

NOTE: RANGE INCLUDES START, TAXI, TAKE–OFF, CLIMB, AND 45 MINUTES RESERVE FUEL AT 45% MAXIMUM CONTINUOUS POWER

— — ALTITUDE FOR SINGLE ENGINE RATE–OF–CLIMB OF 50 FT/MIN



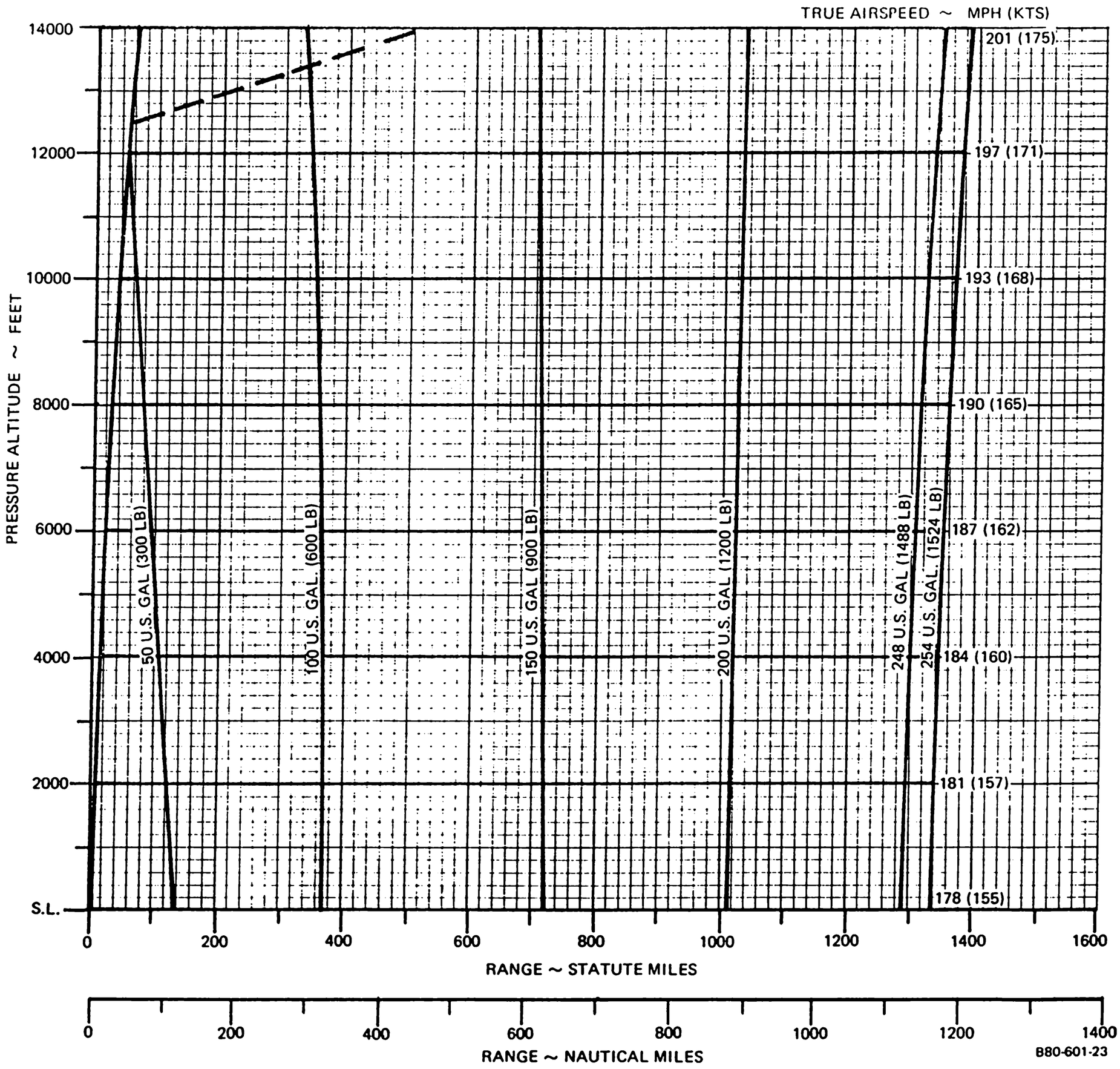
RANGE—55% MAXIMUM CONTINUOUS POWER

ASSOCIATED CONDITIONS:

TEMPERATURE	STANDARD DAY (ISA)
TAKE-OFF WEIGHT	8800 LBS
FUEL FLOW	91 LBS/HR/ENG (15.1 GAL/HR/ENG)
CLIMB POWER	REFER TO CRUISE CLIMB GRAPH
FUEL DENSITY	6.0 LBS/GAL

NOTE: RANGE INCLUDES START, TAXI, TAKE-OFF, CLIMB, AND 45 MINUTES RESERVE FUEL AT 45% MAXIMUM CONTINUOUS POWER

— — ALTITUDE FOR SINGLE ENGINE RATE-OF-CLIMB OF 50 FT/MIN



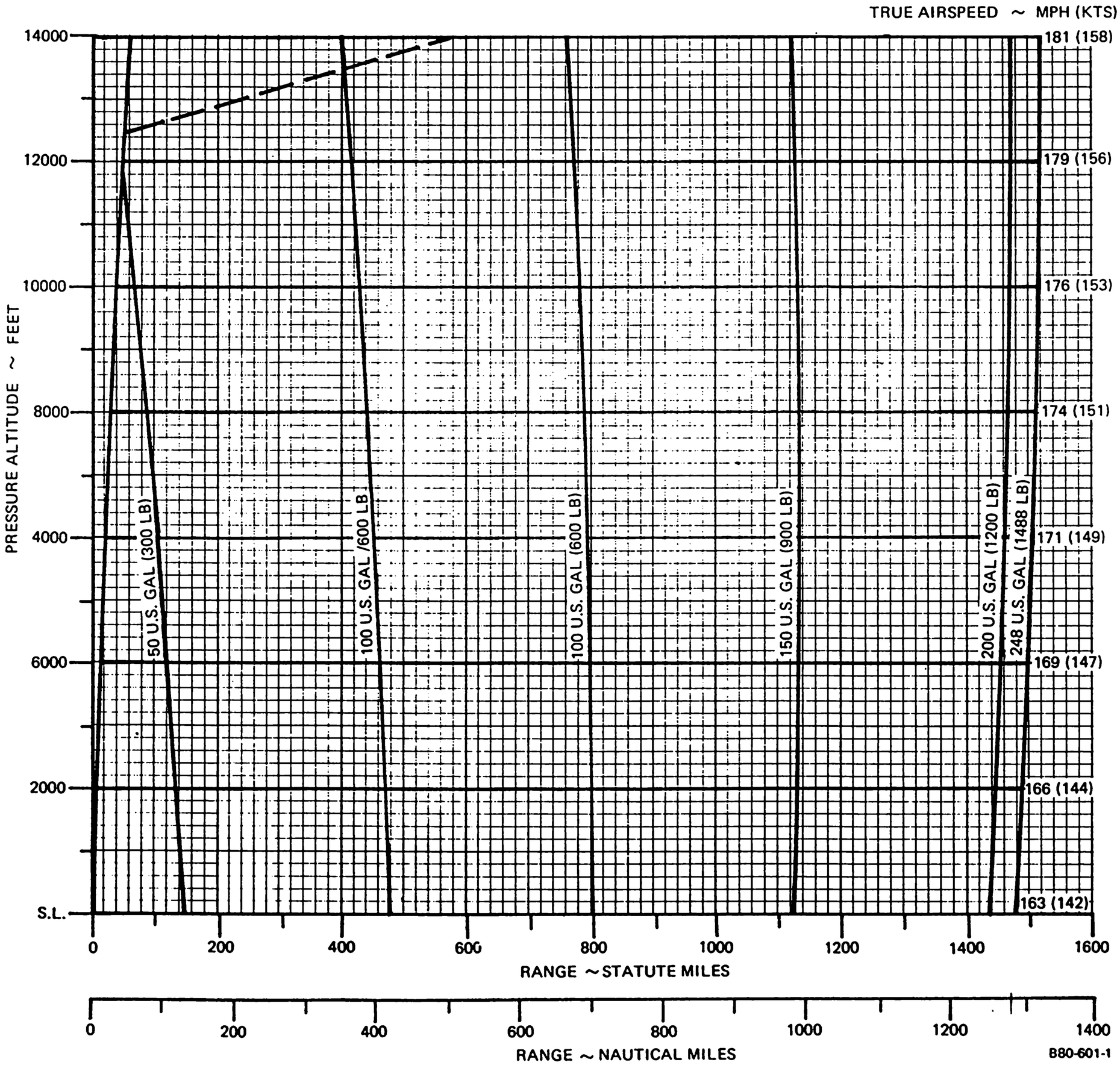
RANGE—45% MAXIMUM CONTINUOUS POWER

ASSOCIATED CONDITIONS:

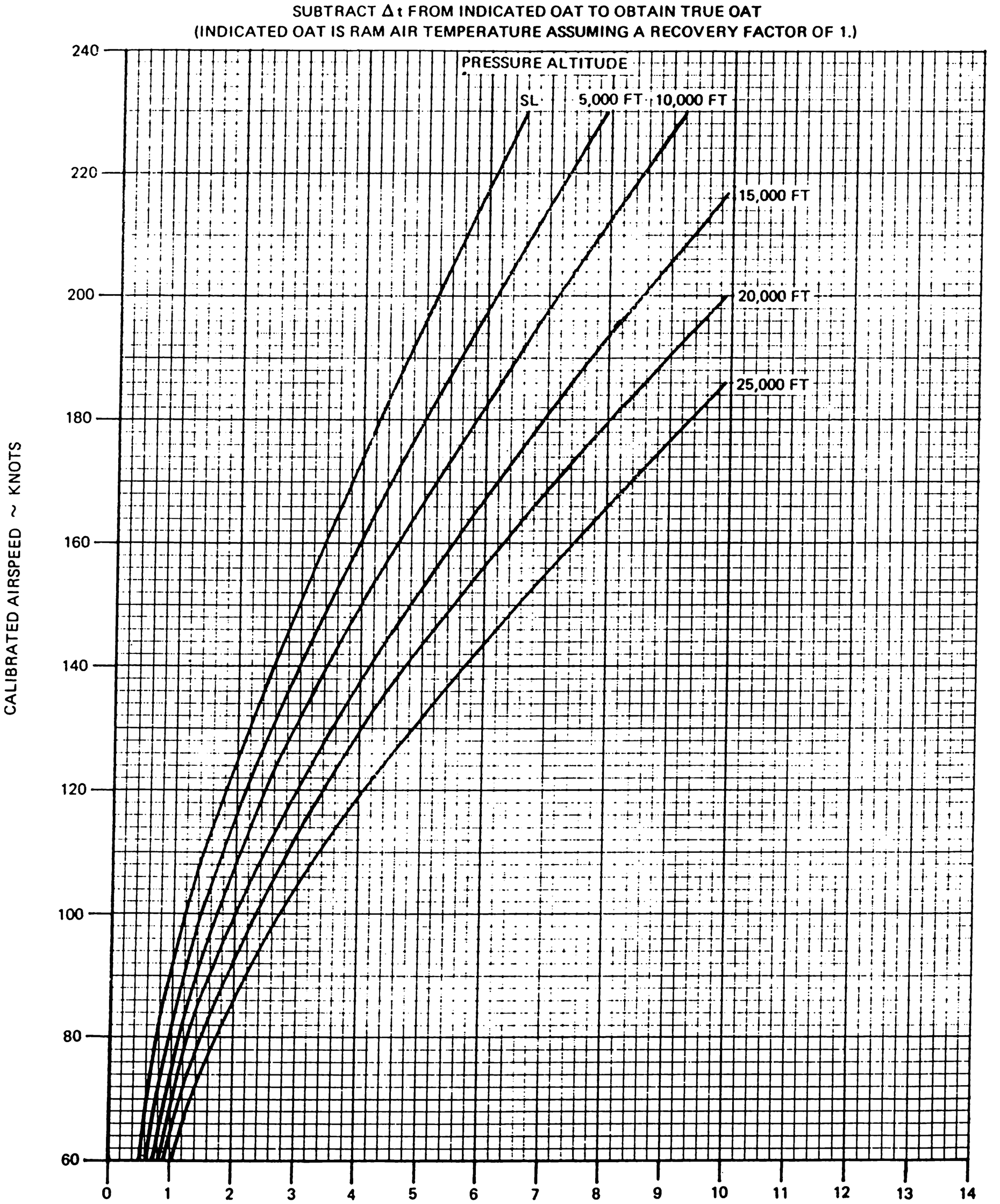
TEMPERATURE	STANDARD DAY (ISA)
TAKE-OFF WEIGHT	8800 LBS
FUEL FLOW	75 LBS/HR/ENG (12.5 GAL/HR/ENG)
CLIMB POWER	REFER TO CRUISE CLIMB GRAPH
FUEL DENSITY	6.0 LBS/GAL

NOTE: RANGE INCLUDES START, TAXI, TAKE-OFF, CLIMB AND 45 MINUTES RESERVE FUEL AT 45% MAXIMUM CONTINUOUS POWER

— — ALTITUDE FOR SINGLE ENGINE RATE-OF-CLIMB OF 50 FT/MIN



OUTSIDE AIR TEMPERATURE CORRECTION



STD-601-12

SECTION VIII

WEIGHT AND BALANCE

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Equipment List

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Beechcraft Queen Air B80

AIRCRAFT BASIC EMPTY WEIGHT AND BALANCE

DATE:

SERIAL NO:

REGISTRATION NO:

PREPARED BY:

STRUT POSITION	NOSE	MAIN
EXTENDED	29.4	176.2
COMPRESSED	30.7	178.3

JACK POINT LOCATION

FORWARD	83.5
AFT	195.5

REACTION WHEEL - JACK POINTS	SCALE READING	TARE	NET WEIGHT	ARM	MOMENT
LEFT MAIN					
RIGHT MAIN					
SUB TOTAL					
NOSE					
TOTAL (AS WEIGHED)					

SPACE BELOW PROVIDED FOR ADDITIONS AND SUBTRACTIONS TO AS WEIGHED CONDITION

EMPTY WEIGHT			
ENGINE OIL UNUSABLE FUEL	81 96	131 168	10611 16128
BASIC EMPTY WEIGHT			

Beechcraft® Queen Air B80

WEIGHT AND BALANCE LOADING FORM

SERIAL NO:	REGISTRATION NO:	DATE:

PAYLOAD COMPUTATIONS			
ITEM		WEIGHT	MOM/100
PASSENGERS (OR CARGO)			
NO.	LOCATION (ROW, F.S., ETC)		
BAGGAGE			
CABINET CONTENTS			
TOTAL PAYLOAD			

REF	ITEM	WEIGHT	MOM/100
1 2 3 4	BASIC EMPTY WEIGHT CREW CREW'S BAGGAGE EXTRA EQUIPMENT		
5	OPERATING WEIGHT		
6	TAKE-OFF FUEL		
7	AIRPLANE WT.-TOTAL		
8	PAYLOAD - TOTAL		
9	TAKEOFF CONDITION		
10	LESS FUEL		
11	LANDING CONDITION		

LOADING INSTRUCTIONS

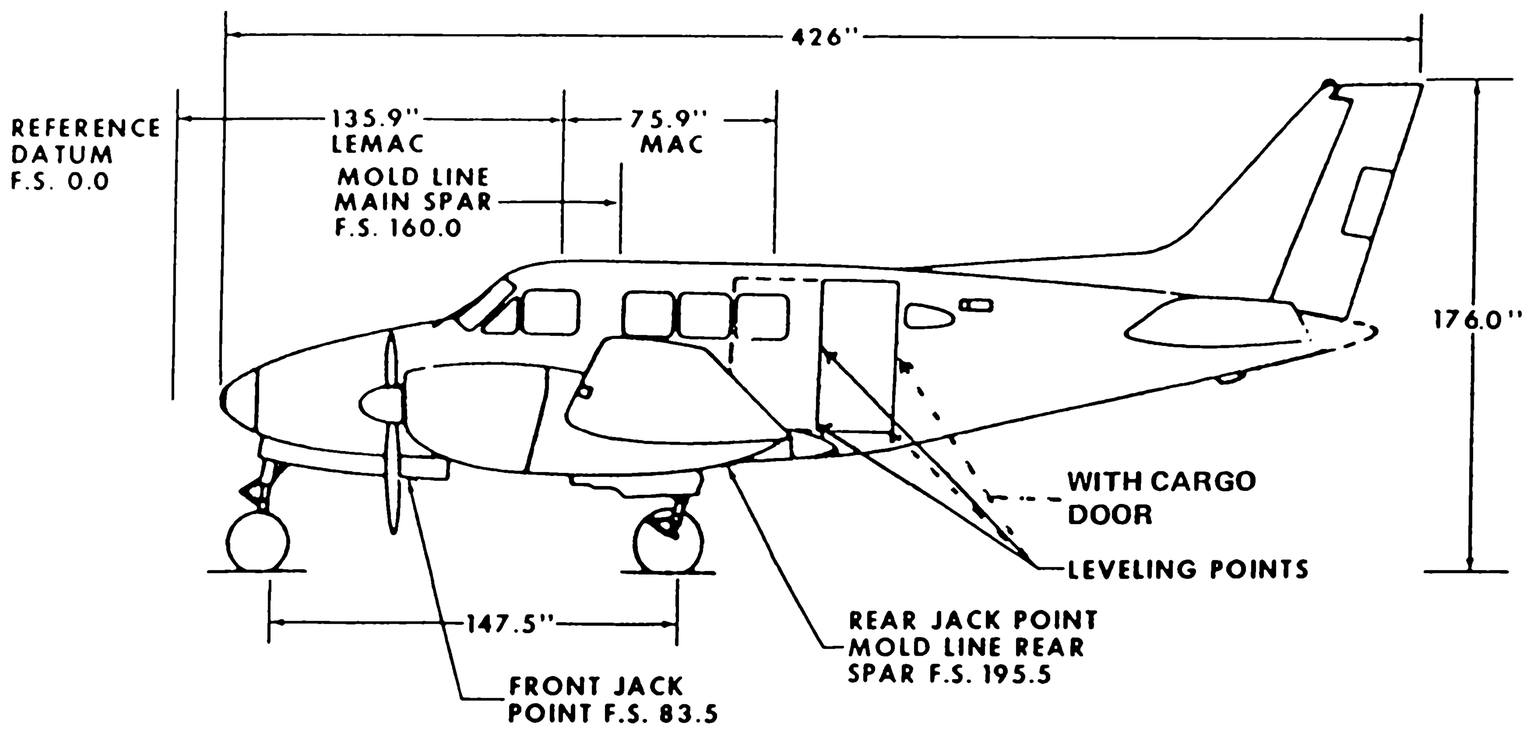
It is the responsibility of the airplane operator to insure that the airplane is properly loaded. At the time of delivery, Beech Aircraft Corporation provides the necessary weight and balance data for the operator to compute individual loadings. All subsequent changes in weight and balance are the responsibility of the airplane owner and/or operator.

The Basic Empty Weight and Moment of the Airplane at the time of delivery is shown on the Aircraft Empty Weight and Balance Form. Useful load items which may be loaded into the Airplane are shown on the Useful Load Weights and Moments Tables. The Minimum and Maximum Moments approved by the FAA are shown on the Gross Weight Moment Limits Graph. These Moments correspond to the forward and aft Center of Gravity flight limits for a particular weight. All Moments are divided by 100 to simplify computations.

COMPUTING PROCEDURE

1. Record the Basic Empty Weight and Moment from the Aircraft Empty Weight and Balance Form (or from the latest superseding form). The moment must be divided by 100 to correspond to Useful Load Moments.
2. Record the weight and corresponding moment of each item to be carried.
3. Total the weight column and moment column. The total weight must not exceed the maximum allowable gross weight and the total moment must be within the minimum and maximum moments shown on the Gross Weight Moment Limits Graph.
4. Determine the weight and corresponding moment of fuel to be burned by subtracting the amount on board on landing from the amount on board at take-off.
5. Subtract the weight and moment of fuel to be burned from the take-off weight and moment. The landing moment must be within the minimum and maximum moments shown on Gross Weight Moment Limits Graph for that weight. If the total moment is less than the minimum moment allowed, useful load items must be shifted aft or forward load items reduced. If the total moment is greater than the maximum moment allowed, useful load items must be shifted forward or aft load items reduced. If the quantity or location of load items is changed, the calculations must be revised and the moments rechecked.

DIMENSIONAL DATA



WEIGHING INSTRUCTIONS

Periodic weighing of the Queen Air B80 may be necessary to keep the Basic Empty Weight current. Frequency of weighing is to be determined by the operator. All changes to the airplane affecting weight and balance are the responsibility of the aircraft operator.

1. Aircraft may be weighed on wheels or jack points. Jack point locations are on the forward fuselage station 83.5 and on the wing center section rear spar fuselage station 195.5. Wheel reaction locations must be measured as described in Paragraph 6, below.

2. Fuel should be drained preparatory to weighing. Tanks are drained from the regular drain ports with the airplane in static ground attitude. When tanks are drained, 6 pounds of undrainable fuel remains in the aircraft at an arm of 153 inches. The remainder of the unusable fuel to be added to a drained system is 90 pounds at fuselage station 169. When the aircraft is weighed with full fuel, the fuel specific weight (pounds/gallon) should be determined by using a hydrometer. Full usable fuel of 200 gallons has a center of gravity at fuselage station 165.5. Full usable fuel of 248 gallons has a center of gravity at fuselage station 165.8. Full usable fuel of 254 gallons has a center of gravity at fuselage station 165.7.

3. Engine oil must be at the full level in each tank. Total engine oil aboard when tanks are full is 81 pounds at an arm of 131 inches.

4. Installed equipment is checked against the aircraft equipment list or superseding forms. All equipment must be in its proper place during weighing.

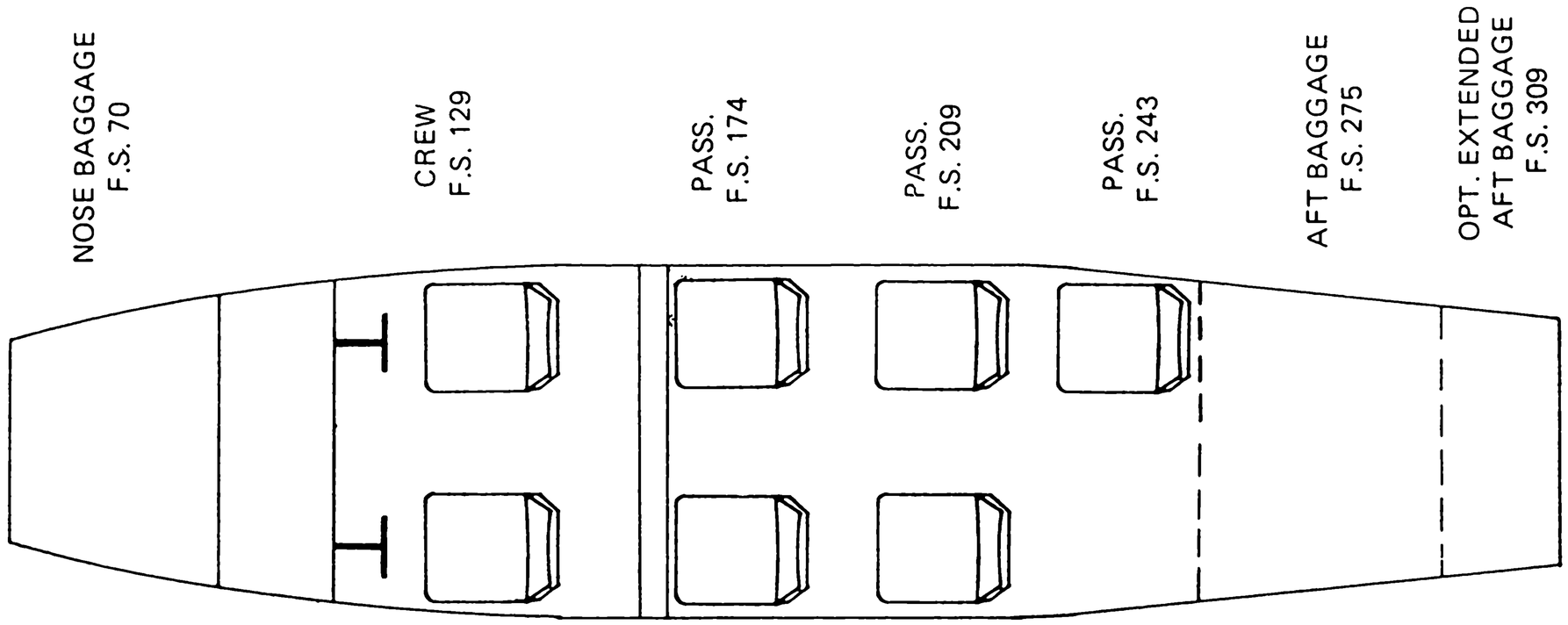
5. Aircraft is placed on scales in a level attitude. Leveling screws are located on the fuselage entrance door frame. Leveling is accomplished with a plumb bob. Jack pad leveling may require the nose gear shock to be secured in the static position to prevent its extension. Wheel weighings can be leveled by varying the amounts of air in shocks and tires.

6. Measurement of the reaction locations for a wheel weighing is made using the nose jacking point for a reference. Using a steel measuring tape, measurements are taken from the reference (a plumb bob hung from the center of the nose jacking point) to the axle center line of the nose gear and then from the nose gear axle center line to the main wheel axle center line. The main wheel axle center line is best located by stretching a string across from one main wheel to the other. All measurements are to be taken in a plane level with the floor and parallel to the fuselage center line. The locations of the wheel reactions will be approximately at an arm of 178 inches for main wheels and 30 inches for the nose wheel.

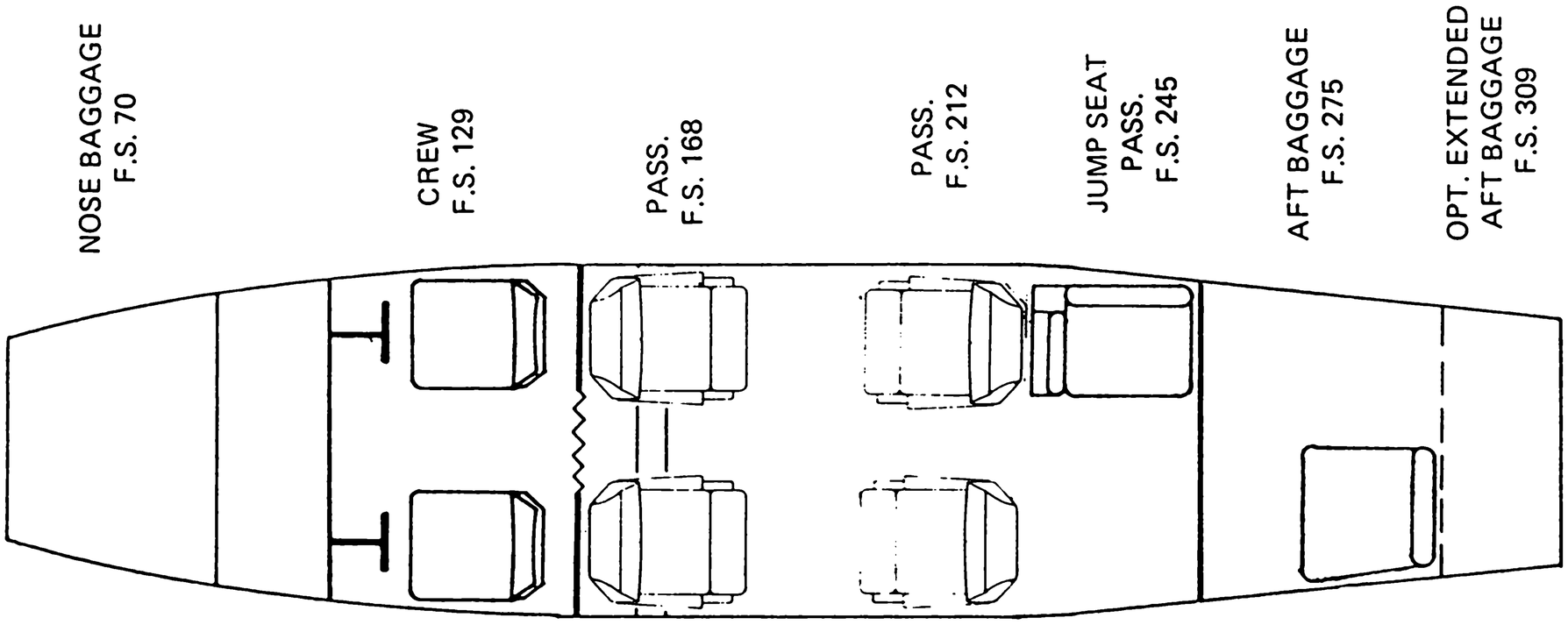
7. The Basic Empty Weight and Moment/100 are determined from the scale readings. Items weighed which are not part of the empty airplanes are subtracted, e.g., usable fuel. Unusable fuel and engine oil are added if not already in the airplane.

8. Weighing should always be performed in an enclosed area which is free of air currents. The scales used should be properly calibrated and certified.

USEFUL LOAD DATA

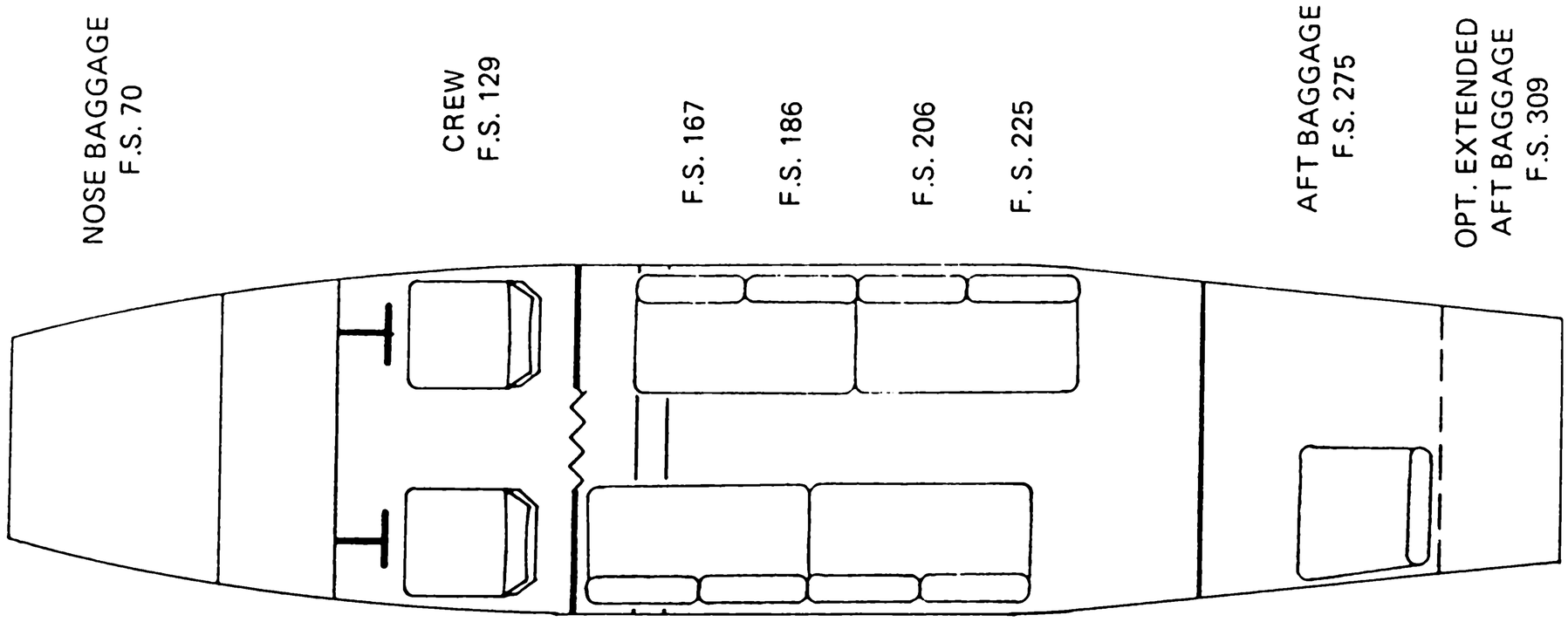


FORWARD FACING SEATING

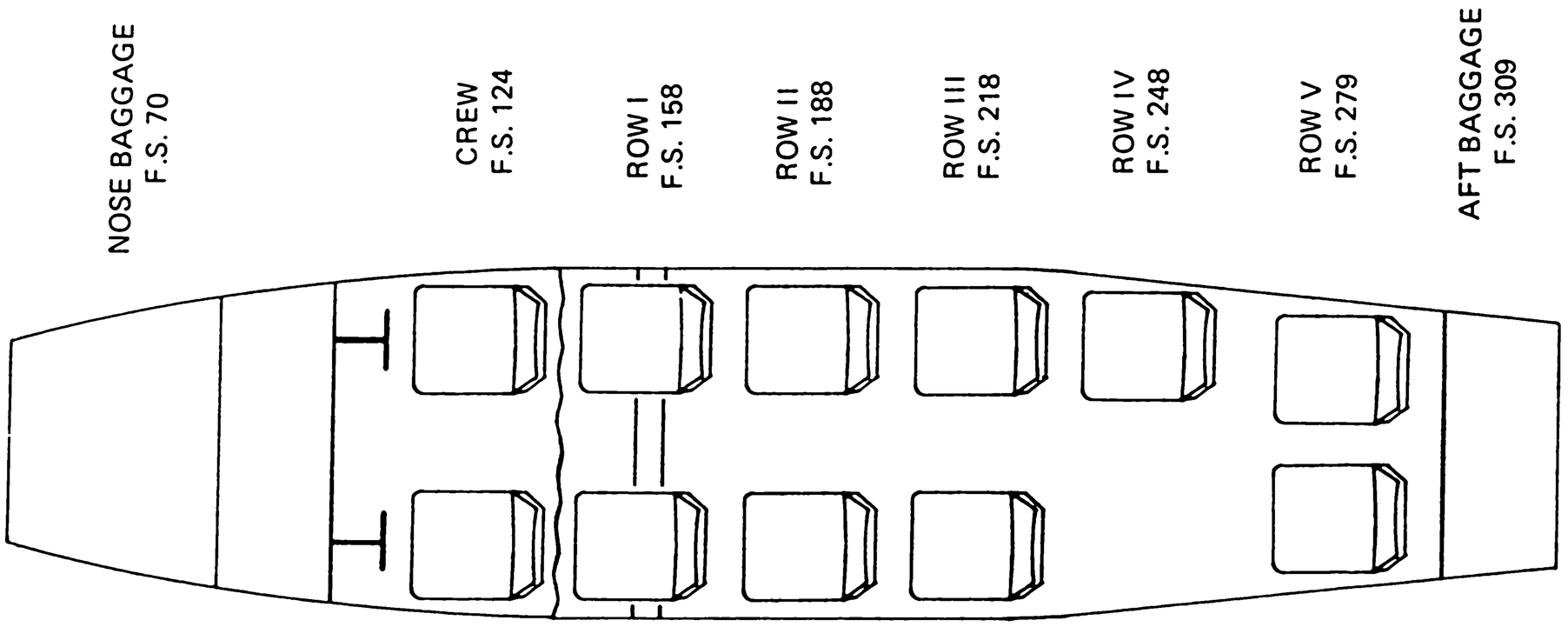


CLUB SEATING

USEFUL LOAD DATA



COUCH ARRANGEMENTS



AIRLINER SEATING

USEFUL LOAD WEIGHTS & MOMENTS

FUEL

LD-280 and after

GALLONS	WEIGHT	200 GAL. SYSTEM	254 GAL. SYSTEM
		MOMENT/100	
5	30	52	52
10	60	104	104
15	90	157	157
20	120	209	209
25	150	261	261
30	180	313	313
35	210	365	365
40	240	418	418
45	270	470	470
50	300	522	522
55	330	574	574
60	360	626	626
65	390	679	679
70	420	731	731
75	450	783	783
80	480	834	834
85	510	882	882
90	540	930	931
95	570	978	980
100	600	1026	1028
105	630	1074	1077
110	660	1122	1125
115	690	1170	1174
120	720	1218	1223
125	750	1266	1271
130	780	1314	1320
135	810	1362	1368
140	840	1410	1417
145	870	1458	1466
150	900	1506	1514
155	930	1554	1563
160	960	1602	1611
165	990	1650	1660
170	1020	1698	1709
175	1050	1746	1757
180	1080	1794	1806
185	1110	1842	1854
190	1140	1890	1903
195	1170	1938	1952
200	1200	1986	2000
205	1230		2049
210	1260		2097
215	1290		2146
220	1320		2195
225	1350		2243
230	1380		2292
235	1410		2340
240	1440		2389
245	1470		2438
250	1500		2486
254	1524		2525

LD-270 through LD-279

GALLONS	WEIGHT	MAIN H-ARM 174	STANDARD AUXILIARY H-ARM 160	OPTIONAL AUXILIARY H-ARM 162
		MOMENT/100		
5	30	52	48	49
10	60	104	96	97
15	90	157	144	146
20	120	209	192	194
25	150	261	240	243
30	180	313	288	292
35	210	365	336	340
40	240	418	384	389
45	270	470	432	437
50	300	522	480	486
55	330	574	528	535
60	360	626	576	583
65	390	679	624	632
70	420	731	672	680
75	450	783	720	729
78	468	814	---	---
80	480		768	778
85	510		816	826
90	540		864	875
95	570		912	923
100	600		960	972
105	630		1008	1021
110	660		1056	1069
115	690		1104	1118
120	720		1152	1166
122	732		1171	
125	750			1215
130	780			1264
135	810			1312
140	840			1361
145	870			1409
150	900			1458
155	930			1507
160	960			1555
165	990			1604
170	1020			1652

OIL

GALLONS	WEIGHT	MOMENT 100
8	60	83

USEFUL LOAD WEIGHTS & MOMENTS

OCCUPANTS

AIRLINE VERSION ONLY

WEIGHT	PILOT OR CO-PILOT	AIRLINER SEATING CHAIR PASSENGER				
	F.S. 124	F.S. 158	F.S. 188	F.S. 218	F.S. 248	F.S. 279
	MOMENT/100					
80	99	126	150	174	198	223
90	112	142	169	196	223	251
100	124	158	188	218	248	279
110	136	174	207	240	273	307
120	149	190	226	262	298	335
130	161	205	244	283	322	363
140	174	221	263	305	347	391
150	186	237	282	327	372	419
160	198	253	301	349	397	446
170	211	269	320	371	422	474
180	223	284	338	392	446	502
190	236	300	357	414	471	530
200	248	316	376	436	496	558

SEATING OTHER THAN AIRLINE VERSION

WEIGHT	PILOT OR CO-PILOT	SEATING - FWD. FACING CHAIR PASSENGER			CLUB SEATING CHAIR PASSENGER			JUMP SEAT	LAV. PASS.
	F.S. 129	F.S. 174	F.S. 209	F.S. 243	F.S. 168	F.S. 212	F.S. 241	F.S. 245	F.S. 290
	MOMENT/100								
80	103	139	167	194	134	170	193	196	232
90	116	157	188	219	151	191	217	221	261
100	129	174	209	243	168	212	241	245	290
110	142	191	230	267	185	233	265	270	319
120	155	209	251	292	202	254	289	294	348
130	168	226	272	316	218	276	313	319	377
140	181	244	293	340	235	297	337	343	406
150	194	261	314	365	252	318	362	368	435
160	206	278	334	389	269	339	386	392	464
170	219	296	355	413	286	360	410	417	493
180	232	313	376	437	302	382	434	441	522
190	245	331	397	462	319	403	458	466	551
200	258	348	418	486	336	424	482	490	580

WEIGHT	FOUR-PLACE COUCH							
	FORWARD POSITION				AFT POSITION			
	F.S. 159	F.S. 178	F.S. 198	F.S. 217	F.S. 167	F.S. 186	F.S. 206	F.S. 225
	MOMENT/100							
80	127	142	158	174	134	149	165	180
90	143	160	178	195	150	167	185	203
100	159	178	198	217	167	186	206	225
110	175	196	218	239	184	205	227	248
120	191	214	238	260	200	223	247	270
130	207	231	257	282	217	242	268	293
140	223	249	277	304	234	260	288	315
150	239	267	297	326	251	279	309	338
160	254	285	317	347	267	298	330	360
170	270	303	337	369	284	316	350	383
180	286	320	356	391	301	335	371	405
190	302	338	376	412	317	353	391	428
200	318	356	396	434	334	372	412	450

USEFUL LOAD WEIGHTS & MOMENTS

BAGGAGE AND CARGO

BAGGAGE

WEIGHT	NOSE COMPT.	AFT COMPARTMENT			OPT. EXTENDED OR AFT - AIRLINER	CARGO POD
		W/TOILET		W/O TOILET		
		UPPER SHELF	LOWER SHELF (FLOOR)			
	F.S. 70	F.S. 275	F.S. 275	F.S. 275	F.S. 309	F.S. 155
	MOMENT/100					
10	7	28	28	28	31	16
20	14	55	55	55	62	31
30	21	83	83	83	93	46
40	28	110	110	110	124	62
50	35	138	138	138	155	78
60	42	165	165	165	185	93
70	49	193	193	193	216	108
80	56	220	220	220	247	124
90	63	248	248	248	278	140
100	70	275	275	275	309	155
110	77	303	303	303	340	170
120	84	330	330	330	371	186
130	91	358	358	358	402	202
140	98	385	385	385	433	217
150	105	413	413	413	464	232
160	112		440	440	494	248
170	119		468	468	525	264
180	126		495	495	556	279
190	133		523	523	587	294
200	140		550	550	618	310
210	147			578	649	326
220	154			605	680	341
230	161			633	711	356
240	168			660	742	372
250	175			688	773	388
260	182			715		403
270	189			743		418
280	196			770		434
290	203			798		450
300	210			825		465
310	217			853		
320	224			880		
330	231			908		
340	238			935		
350	245			963		

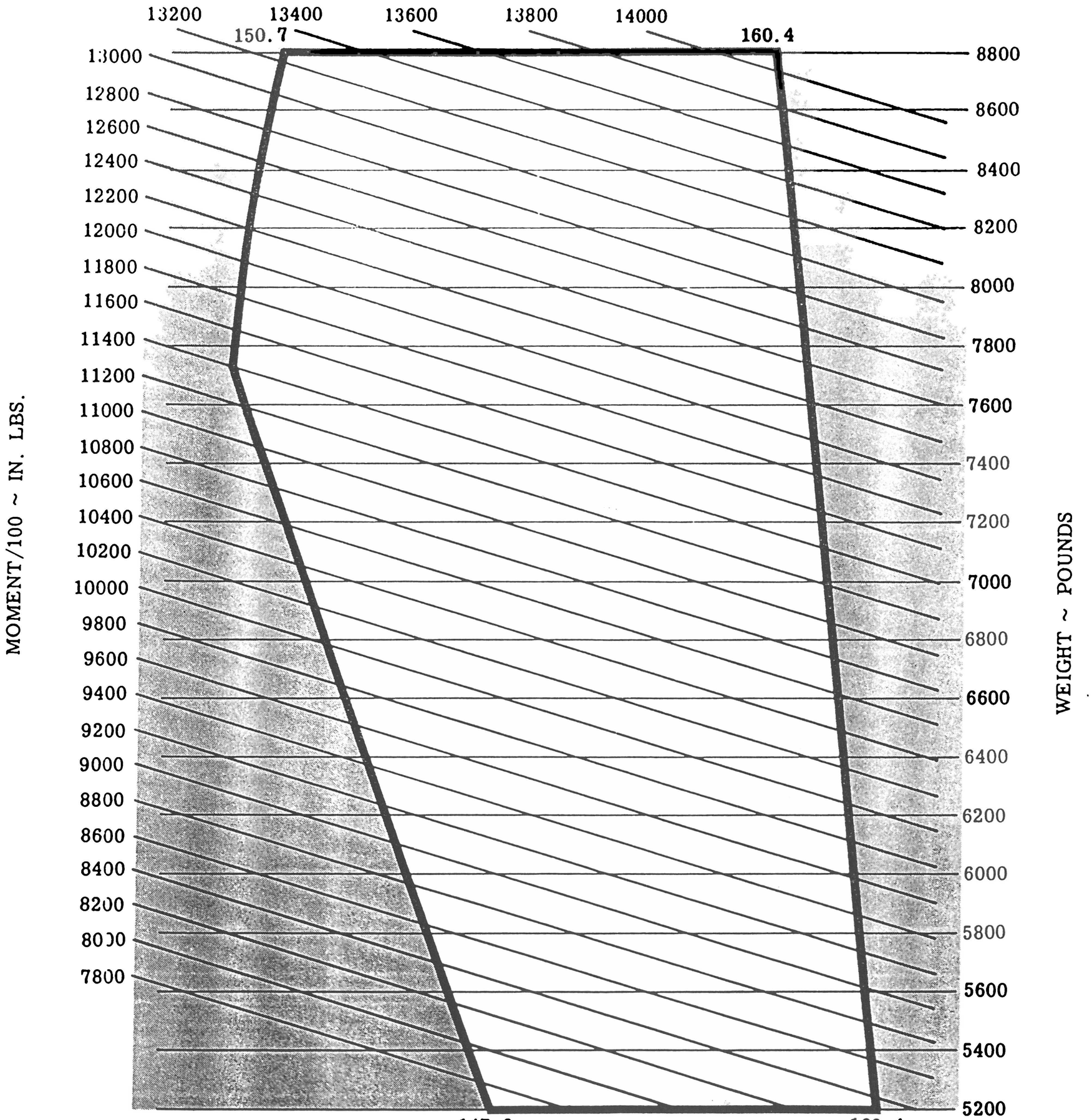
CABINET AND CLOSET CONTENTS

WEIGHT	FWD. CABIN	AFT CABIN		
	F.S. 152	F.S. 244	F.S. 250	F.S. 260
	MOMENT/100			
5	8	12	13	13
10	15	24	25	26
15	23	37	38	39
20	30	49	50	52
25	38	61	63	65
30	46	73	75	78
35	53	85	88	91
40	61	98	100	104
45	68	110	113	117
50	76	122	125	130

Beechcraft

QUEEN AIR 65 - B80

GROSS WEIGHT MOMENT LIMITS



THE ABOVE MOMENT LIMITS ARE BASED ON THE FOLLOWING WEIGHT AND CENTER OF GRAVITY LIMIT DATA (LANDING GEAR DOWN)

WEIGHT CONDITION	FORWARD CG LIMIT	AFT CG LIMIT
8800 LBS (MAXIMUM TAKE-OFF & LANDING - ALL CONDITIONS)	150.7	160.4
7750 LBS OR LESS	147.6	160.4

B80-601-24

Beechcraft®

EQUIPMENT LIST

AIRCRAFT SERIAL NO.

DATE

REGISTRATION NO.

I.D.	DESCRIPTION	WEIGHT	ARM

SECTION IX

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General Specifications

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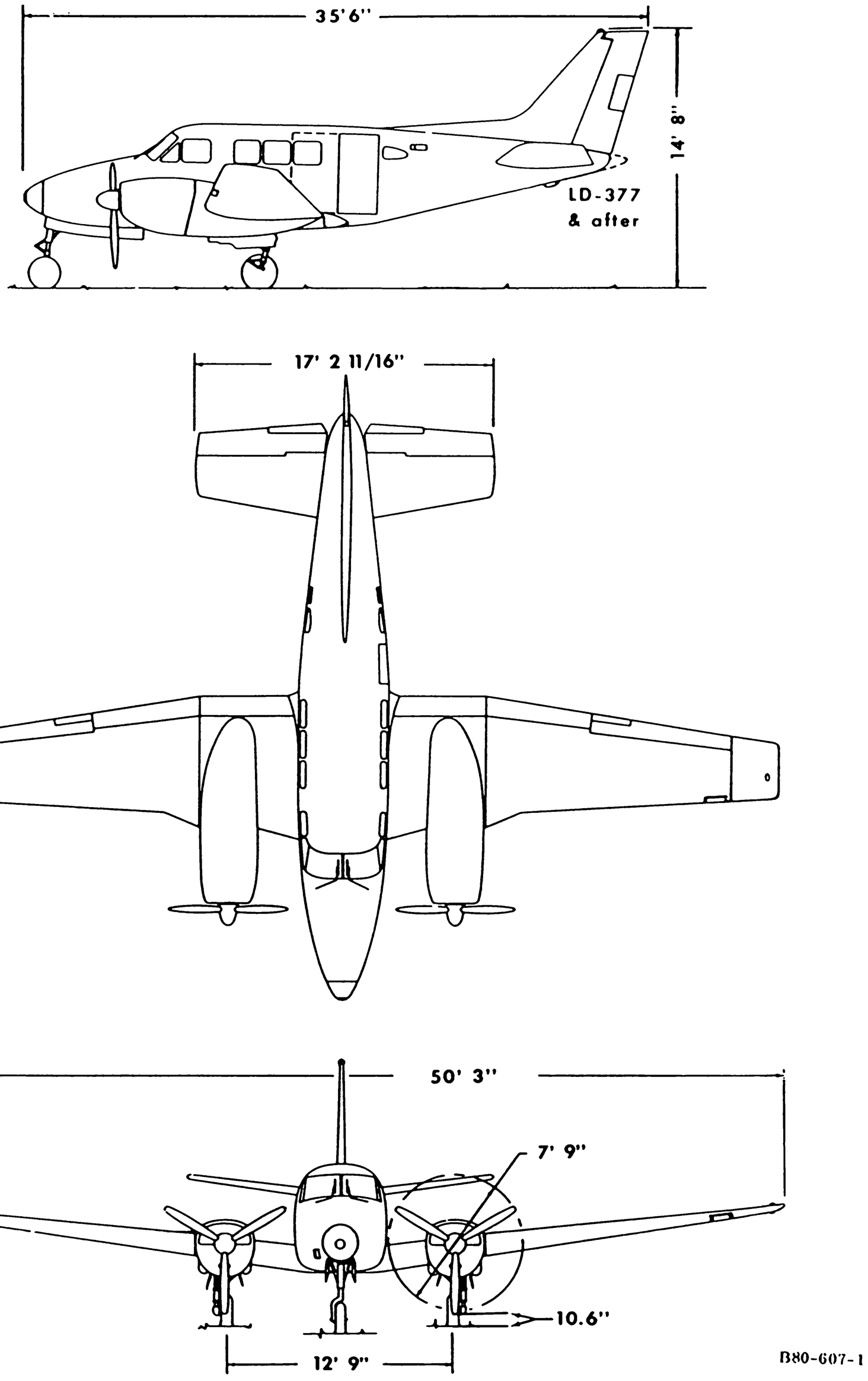

THREE VIEW

GENERAL SPECIFICATIONS

WEIGHTS

Gross Weight	8800 lbs
Empty Weight (including standard equipment, unusable fuel and oil)	5060 lbs
Weight available for passengers, baggage, fuel, oil and optional equipment	3740 lbs

WING AREA AND LOADINGS

Wing Area	293.9 sq ft
Wing Loading at gross weight	29.9 lbs/sq ft
Power Loading at gross weight	12.2 lbs/hp

DIMENSIONS

Wing Span	50 ft 3 in.
Length	35 ft 6 in.
Height to top of fin	14 ft 8 in.

INTERIOR DIMENSIONS

Pilot Compartment Length	59 in.
Length (with standard aft lavatory installation)	155 in.
Length (with extended baggage compartment)	176 in.
Width	54 in.
Height	57 in.
Entrance Door	27 in. x 51 3/4 in.
Cargo Door	54 in. x 51 3/4 in.
Baggage Compartment Volume (without aft lavatory installation)	53.5 cu ft
Baggage Compartment Volume (with aft lavatory installation)	26.5 cu ft
Nose Compartment Volume	24 cu ft
Extended Aft Baggage Volume (Optional)	17.1 cu ft

FUEL AND OIL CAPACITY

LD-280 and after	
Standard System	219 gallon capacity
Optional System	269 gallon capacity
LD-270 through LD-279	
Standard System	
Outboard Wing Tanks	128 gallon capacity
Inboard Wing Tank	88 gallon capacity
Optional System	
Outboard Wing Tanks	178 gallon capacity
Inboard Wing Tank	88 gallon capacity
Oil Capacity (Total)	8 gals

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SYSTEMS

The BEECHCRAFT Queen Air B80 is a six to eleven place, low-wing, twin-engine monoplane with retractable tricycle landing gear. The all metal, semi-monocoque airframe is designed for maximum strength and is fabricated of aluminum, magnesium and alloy steel.

POWER PLANTS

GENERAL SPECIFICATIONS

The Queen Air is powered by two, 6-cylinder, Lycoming, supercharged, IGSO-540 Series, horizontally opposed engines, equipped with Bendix fuel injection. These engines are rated at 380 hp at 3400 rpm for take-off and 360 hp at 3200 rpm for maximum continuous operation. The engines are supercharged by single-stage, single-speed, centrifugal blowers. The power plants utilize a two stage augmenter exhaust system to assure adequate cooling in all power ranges, and to provide additional thrust while eliminating the need for cowl flaps. The Bendix fuel injection system injects fuel into the supercharger blower, reducing the possibility of induction system icing from fuel vaporization and includes manual mixture control, fuel flowmeter, and automatic altitude and temperature compensators.

PROPELLERS

The engines are equipped with two Hartzell, all-metal, full feathering, constant speed, three-bladed propellers. Centrifugal force from the propeller blade counter weights, assisted by a feathering spring, moves the blades to high pitch. Engine oil, under governor boosted pressure, moves the blades to low pitch. A spring in each propeller hub moves the blades to the feathered position when the propeller control lever on the pedestal is pulled to the feathered position. Flyweight latches on each propeller spinner bulkhead prevent the propellers from feathering on the ground after the engines have been stopped. A single-action, engine-driven propeller governor automatically maintains engine rpm.

POWER PLANT CONTROLS

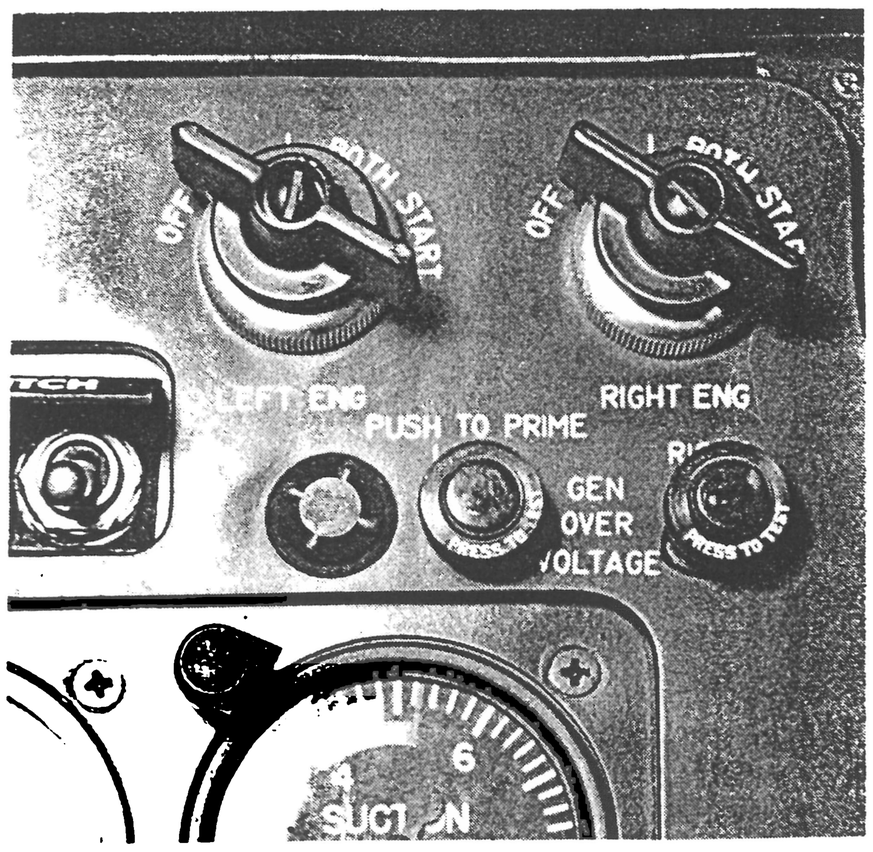
THROTTLE, PROPELLER, AND MIXTURE

Throttle, propeller, and mixture levers are grouped at the top of the control console. Their knobs are shaped to government standard configurations so they can be identified by touch. Controllable friction locks are located on each side of the pedestal, and may be tightened to prevent creeping after power settings have been established.

The throttle controls are located at the left of the console. They are placarded THROTTLE, PUSH OPEN. In the center of the console, the propeller controls are placarded PROP, PUSH LOW PITCH, and FEATHER. A red band at the lower end of the quadrant indicates the feather position. At the right of the console, the placard marked MIXTURE and PUSH RICH identifies the mixture controls.

SWITCHES

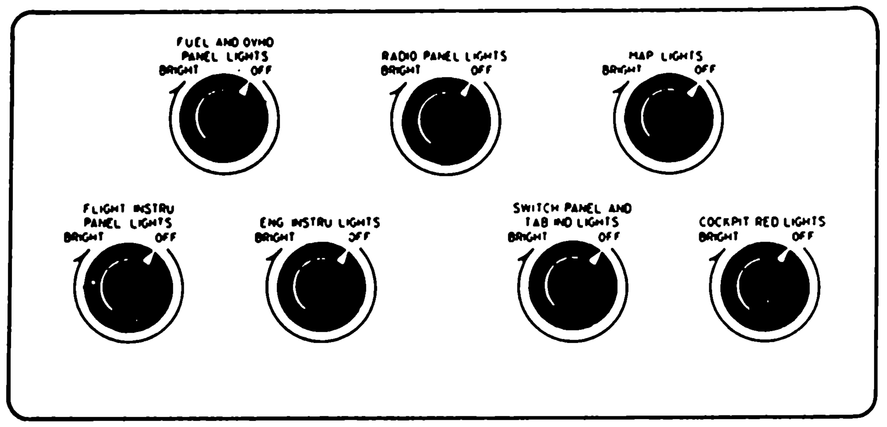
Direct cranking, 24-volt starters are energized during the starting. The starter circuit is closed when the unitized starter, primer, and magneto switch is actuated. This triple function unit provides control over the starter, primer, and ignition in a single switch for each engine. Each switch is placarded OFF, R. L. BOTH, START, PUSH TO PRIME. The push to prime feature of this switch may be actuated in either the BOTH or START position.



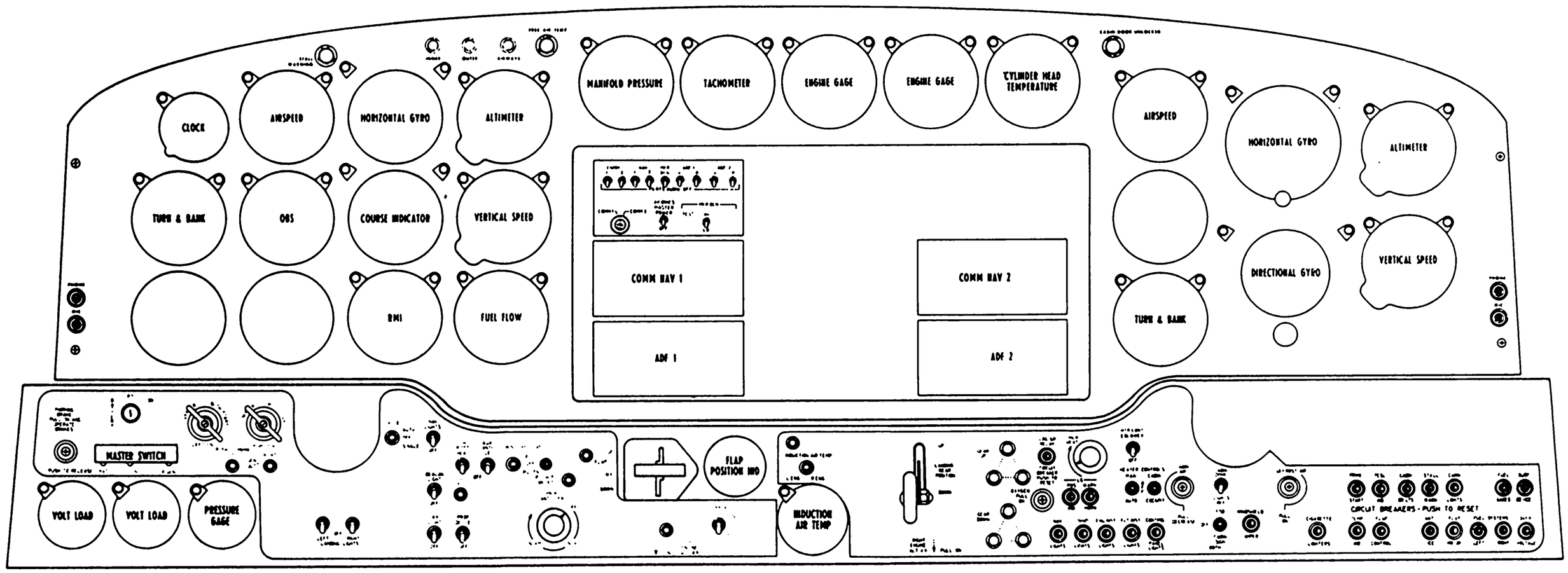
MAGNETO START SWITCH

Spring loading automatically returns the switch to the BOTH magneto position at the completion of the starting cycle.

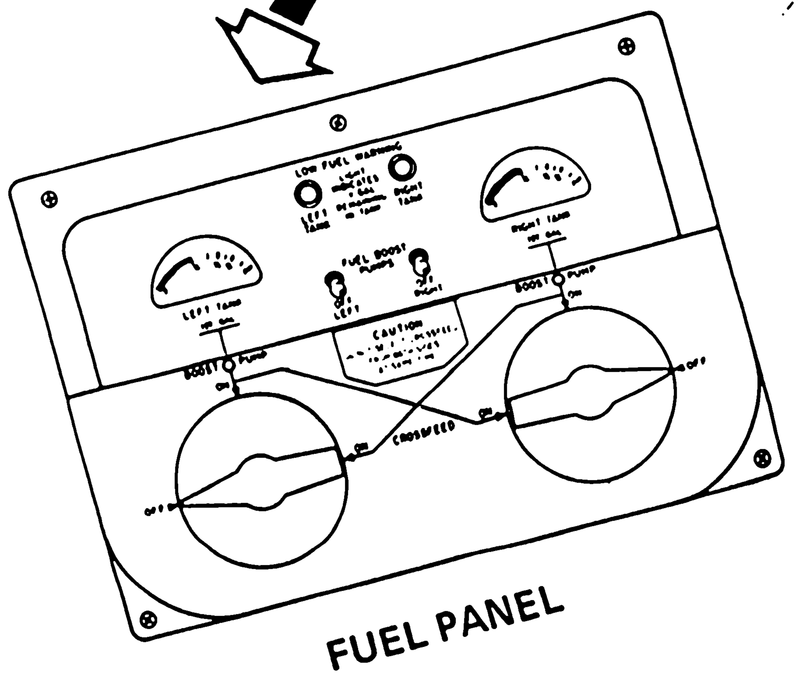
A safety switch is installed on the nose baggage door which prevents engagement of the left starter when the baggage door is not secure.



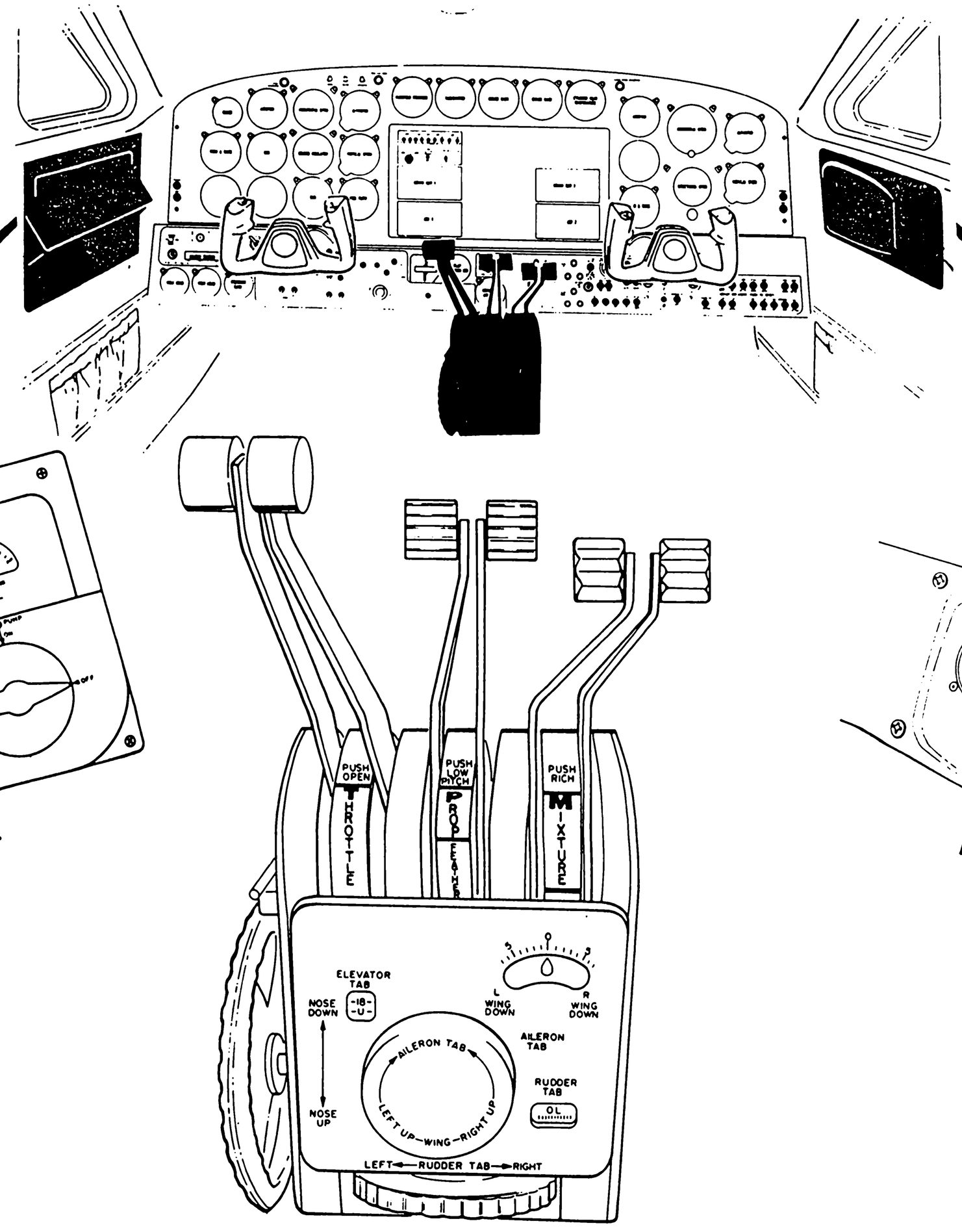
OVERHEAD LIGHT PANEL



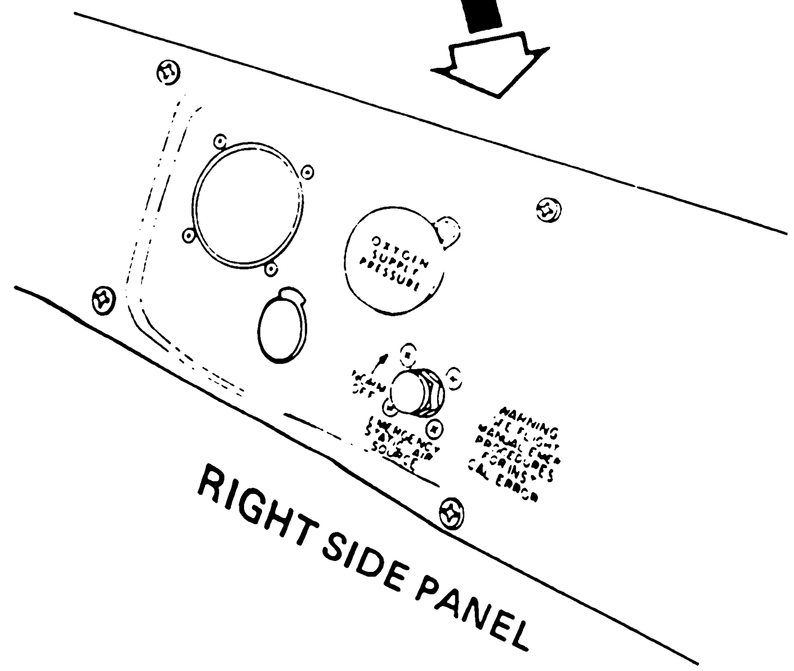
TYPICAL INSTRUMENT PANEL



FUEL PANEL



PEDESTAL



RIGHT SIDE PANEL

INDUCTION AIR

LD-328 and AFTER

Two push-pull controls are located under the subpanel to either side of the control pedestal. The normal or forward position of the control provides FILTERED RAM AIR. To obtain UNFILTERED HEATED ALTERNATE AIR the control is pulled aft. HEATED ALTERNATE AIR is taken from the exhaust heater muff on the left side of the engine. Avoid operation with ALTERNATE AIR except for system checks or when required for flight into icing conditions.

LD-270 through LD-327

Three sources of induction air are available to the intake system: ram, filtered and heated alternate air. The three-position switch on the center subpanel, placarded RAM, AUTO, and FILTER, selects either ram or filtered air. In flight, ram air provides better engine operation, but on the ground or where dusty conditions are likely to exist, filtered air should be selected. In the AUTO position, the source selection is determined by the landing gear position switch. When the gear handle is in the DOWN position, filtered air is selected, ram air is selected when the handle is in the UP position.

Two push-pull controls for heated alternate air are located under the subpanel on either side of the control pedestal. The controls may be pulled out to select heated air when induction system icing occurs. Heated alternate air is taken from the exhaust heater muff on the left side of the engine.

ENGINE INSTRUMENTS

Engine instruments, consisting of a manifold pressure indicator, tachometer, two engine indicator units, and a cylinder head temperature indicator, are grouped at the top center of the instrument panel. The engine indicator units contain fuel pressure, oil pressure, and oil temperature for their respective engines. A fuel flow meter is located just above the subpanel on the left side of the control console, and an induction air temperature indicator is installed in the center of the subpanel.

OIL SYSTEM

A dry sump, full pressure oil system, supplied from a four-gallon tank behind the fire wall in each nacelle, lubricates the engines. This system incorporates engine-driven circulating pumps, scavenger pumps, oil coolers, shutoff control valves and appropriate plumbing for each engine. The system is fully automatic, controlled by thermostatic and pressure relief bypass valves in the oil coolers. Manual shutoff valve controls located just forward and to either side of the control pedestal are provided, should it become necessary to secure the lubrication system for an engine in the event of fire, malfunction or failure.

FUEL SYSTEM

FUEL TANKS

The standard fuel tank installation consist of a 40-gallon tank in the leading edge, a 24-gallon tank aft of the spar and a 44-gallon tank inboard of the nacelle. An optional 25-gallon tank outboard of the nacelle can be added. On LD-280 and after all tanks in each wing are interconnected for a capacity of 219 gallons in the standard configuration or a capacity of 269 gallons in the optional configuration. On LD-270 through LD-279, each wing is divided into an inboard system with a 44 gallon capacity and a standard outboard system with a 64 gallon capacity, or an optional outboard system with a 89 gallon capacity. The fuel system is two independent systems (four on LD-270 through LD-279) provided with a crossfeed. Fuel pressure, measured at the fuel control unit is indicated on the engine instruments.

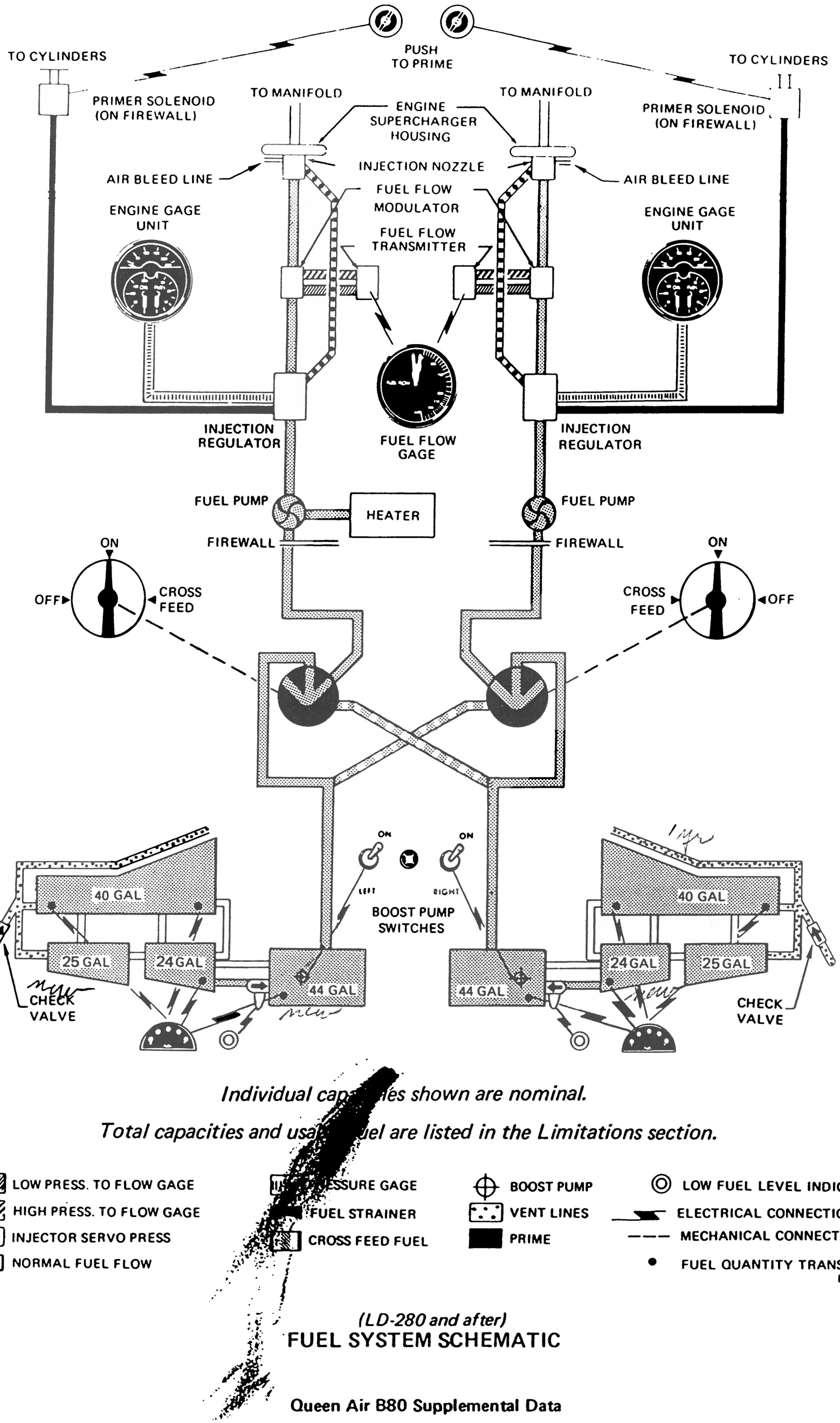
LD-280 AND AFTER

Each wing fuel system consists of one inboard and two (three optional) outboard fuel tanks, a submerged electric fuel boost pump, a manual fuel selector valve, a fuel strainer, and an engine-driven pump. All the fuel tanks of each system are filled through a common opening and feed a single line. The tanks are interconnected and transmit their common level to a single indicator. A submerged fuel boost pump is located in each inboard tank. Fuel selector valves and strainers are located in each wheel well. Return fuel is routed from each engine respectively to the tanks on its side.

Fuel management, including emergency crossfeed, is controlled by the fuel selector valve handles on the fuel control panel to the left of the pilot. This panel also contains the fuel quantity indicators, low fuel warning lights, and fuel boost pump switches.

LD-270 THROUGH LD-279

Each wing fuel system consists of one inboard and two (three optional) outboard fuel tanks, two submerged electric boost pumps, a manual fuel selector valve, a fuel strainer, and an engine-driven pump. The outboard fuel tanks of each system are interconnected, feed a single line, are filled through a common opening and transmit their common level to a single indicator. The inboard fuel tanks of each system are filled independently and transmit their levels to separate indicators. A submerged fuel boost pump and sump drains are located in each inboard tank and in each 24-gallon outboard tank. The other outboard tanks also incorporate sump drains. Fuel selector valves and strainers are located in each wheel well. Return fuel is routed through the fuel selector valve to the tank from which fuel is being drawn.

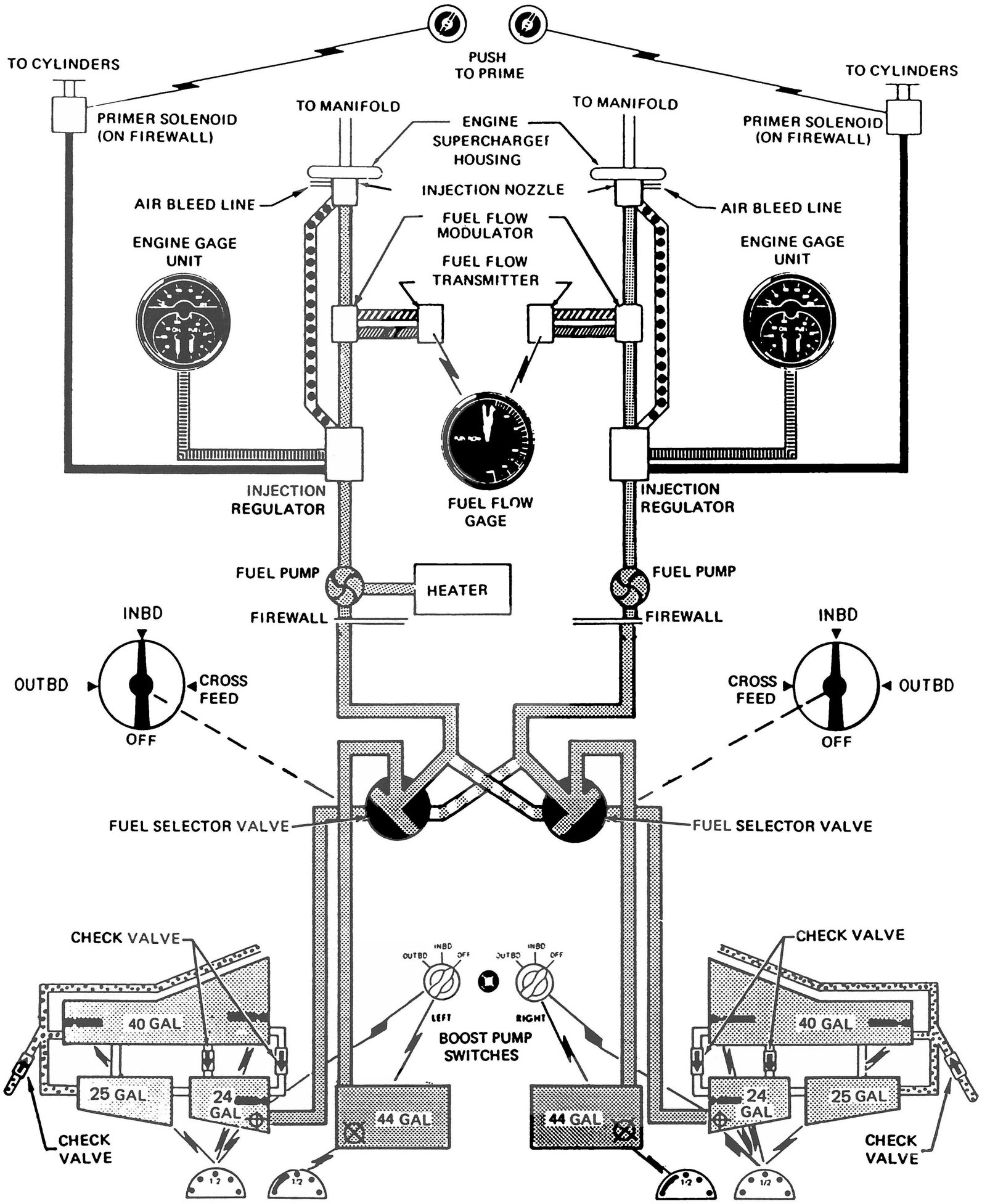


Individual capacities shown are nominal.

Total capacities and usable fuel are listed in the Limitations section.

(LD-280 and after)

FUEL SYSTEM SCHEMATIC



Individual capacities shown are nominal.

Total capacities and usable fuel are listed in the Limitations section.

LOW PRESS. TO FLOW GAGE
HIGH PRESS. TO FLOW GAGE
INJECTOR SERVO PRESS
NORMAL FUEL FLOW
PRESSURE GAGE
FUEL STRAINER
CROSS FEED FUEL
CROSS FEED
RETURN LINES
BOOST PUMP
VENT LINES
PRIME
ELECTRICAL CONNECTION
MECHANICAL CONNECTION

B80-603-1

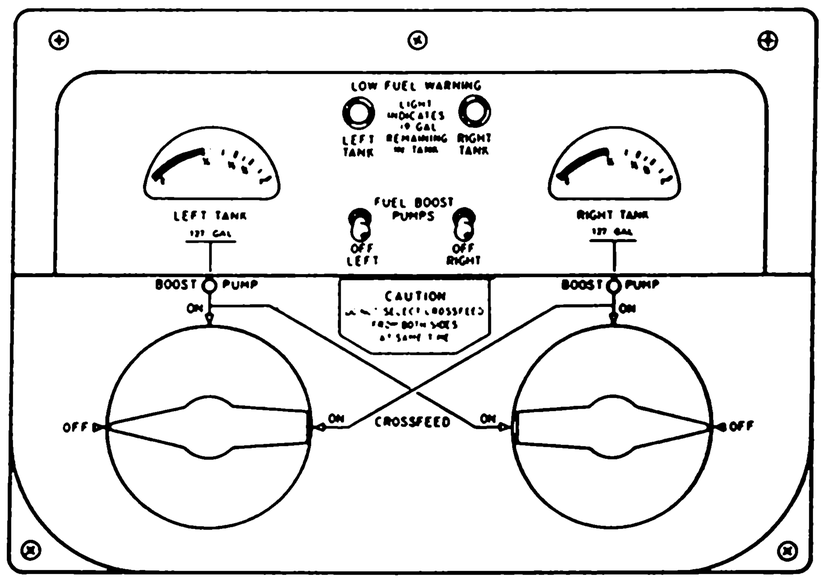
(LD-270 through LD-279)

FUEL SYSTEM SCHEMATIC

FUEL CONTROL PANEL

LD-280 and after

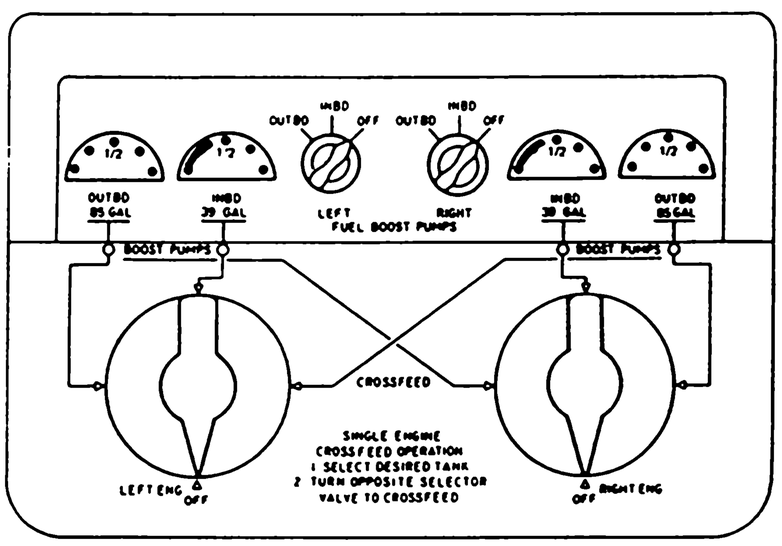
Each fuel tank, with the exception of the optional 25-gallon outboard tank, is equipped with a float-type transmitter unit. These units transmit the collective fuel quantity for each wing to the fuel indicator for that wing.



One fuel indicator and a warning light indicate fuel quantity for each side of the system. When the total fuel quantity for either side has diminished to approximately 19 gallons, the appropriate red warning light on the fuel control panel will glow.

LD-270 through LD-279

Fuel quantity is measured by a float type transmitter unit in each fuel tank. These units transmit fuel level signals to the indicators on the fuel control panel. The outboard



tanks in each wing transmit a collective reading to one indicator, while the inboard tank transmits its single reading to another.

FUEL MANAGEMENT (LD-270 through LD-279)

The fuel selector valves may be positioned to use fuel as desired while normal cruising operations are performed. However, since take-offs and landings will be performed using the inboard fuel tanks only, a sufficient reserve for a safe landing must be maintained. If the length of a flight will allow enough fuel for this reserve, the inboard tanks may be used while establishing cruise configuration. Otherwise, switch to the outboard fuel tanks when cruising altitude has been reached.

FUEL SELECTOR VALVES

Three-position (LD-280 and after), four-position (LD-270 through LD-279) selector valve handles determine the tanks from which fuel is to be drawn. When a fuel selector is shifted to any new position, a definite detent can be felt when the selector is properly aligned. If the selector does not seat, the flow of fuel may be restricted or interrupted, causing engine stoppage. After shifting a fuel selector valve handle, note fuel pressure to assure that the engine is drawing sufficient fuel from the new supply.

NOTE

On Serials LD-270 through LD-279, take-offs and landings will only be made using the inboard tanks.

EMERGENCY FUEL CROSSFEED

LD-280 and after

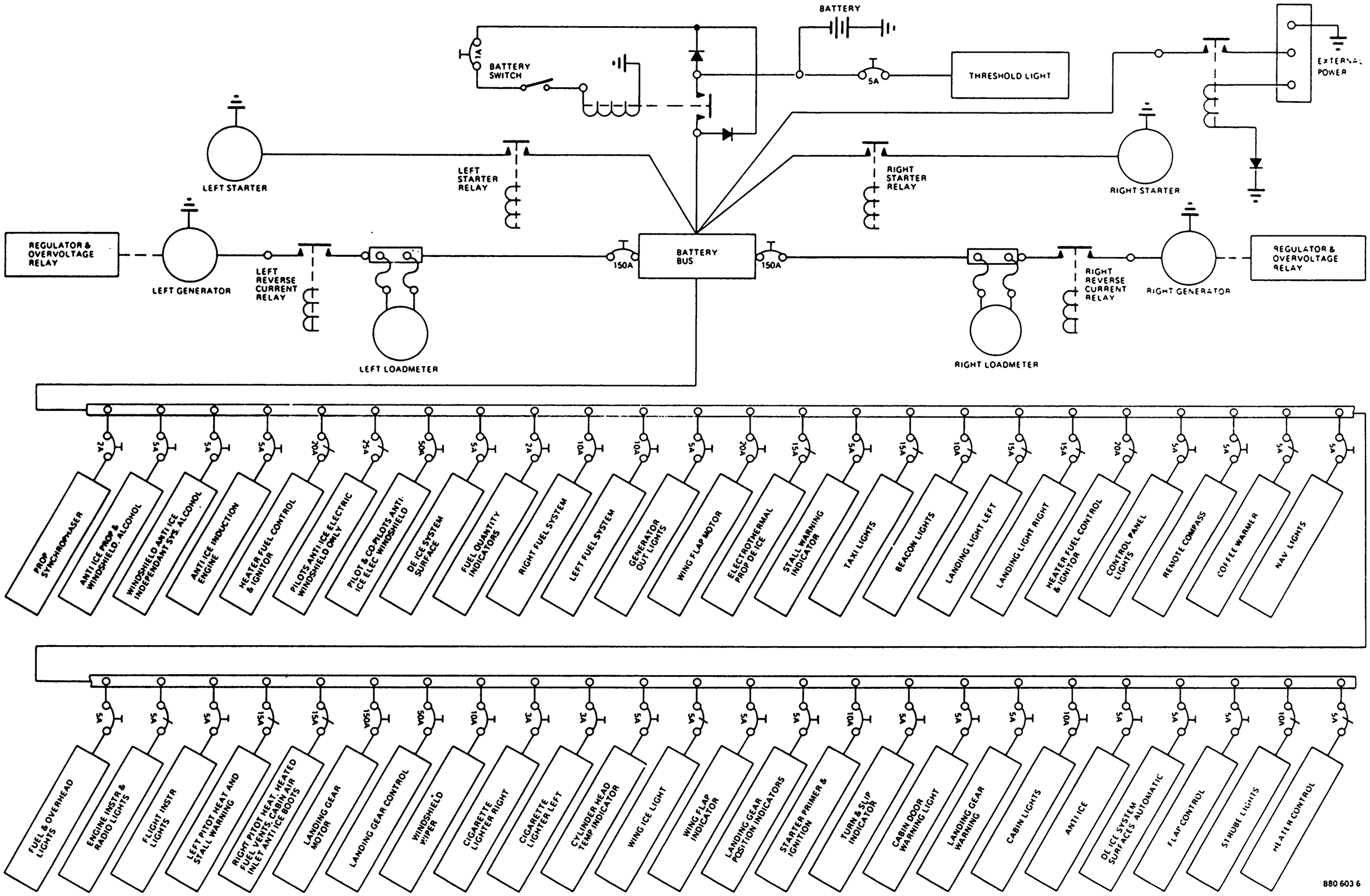
These serials are equipped with a simplified fuel control panel. The procedure for emergency crossfeed operation is as follows: Turn the selector of the feeding side to the OFF position and turn the fuel boost pump for that side ON. Turn the opposite selector to the CROSSFEED position.

LD-270 through LD-279

The procedure for crossfeed operation is described on the fuel control panel and simply stated is as follows: Select the desired side (L or R) and the desired tank (inboard or outboard) to be fed from. Turn the selector to that desired tank and turn the fuel boost pump ON for that tank. Turn the opposite selector to the CROSSFEED position.

ELECTRICAL SYSTEM

The Queen Air's 28-volt electrical system consists of a single 24-volt nickel cadmium battery located in the nose section; two 28-volt, 125-ampere engine driven alternator-rectifiers (two 28-volt, 150-ampere engine driven generators on LD-352 and after) are connected in parallel to the main bus system, two overvoltage relays with warning lights, and two volt-load meters. The two volt-load



POWER DISTRIBUTION SCHEMATIC

meters, located on the extreme left of the subpanel, normally indicate respective generator/alternator capacity output; however, when the spring loaded push button switch is pressed, bus voltage is indicated.

Battery and generator/alternator power can be cut off simultaneously by a gang bar, marked MASTER SWITCH, extending across the switches. In the ON position, electricity flows from the battery through the master switches to the bus.

When starting the engines, have both generator/alternator switches turned OFF. After the engine starts, turn the generator/alternator switch for that engine ON. Then start the other engine using the same procedure.

Two generator/alternator warning lights are installed below the ignition switches. If an overvoltage relay disconnects a generator or a alternator ceases to function, the respective warning light illuminates. This warns the pilot to monitor his current consumption since the electrical sources are then limited to the other generator or alternator and the battery. If an overvoltage warning light comes on in flight, turn off the affected generator/alternator, then on again. If the overvoltage condition does not recur, continue the use of the generator/alternator. If the overvoltage condition should persist, switch off the affected generator/alternator. If both warning lights should illuminate indicating that both generators/alternator are off the line, recycle the generator/alternator switches individually to find out which is the affected generator/alternator.

Placards indicate the particular circuit controlled by the individual circuit breakers on the subpanel. The circuit breakers are of the push to reset or pull then push to reset type. The circuit breakers switches are reset by moving the switch to the OFF position then to ON. The landing gear motor circuit breaker and the generator circuit breaker, located on the floor to the right of the pilot's seat, cannot be pulled to open the circuit.

Circuit breakers for optional avionics installations are installed on the bottom of the control pedestal. All circuit breakers for avionics are push to reset or pull then push to reset type.

Before shutting down the engines, it should be ascertained that sufficient battery voltage will be available for the next start. With ALTERNATORS installed, operate engines at 1000 rpm and read volt/load meters. If total load (on both meters) is more than .2 with all electrical equipment OFF, continue to run the engines at 1000 rpm until the load total falls below .2. With GENERATORS installed, 1300 rpm must be maintained until the .2 load is indicated. This procedure will leave the battery adequately charged.

STARTING ALTERNATORS IN FLIGHT WITH A DEAD BATTERY (LD-270 through LD-351)

If the alternators are inadvertantly left off before take-off and the electrical load of the landing gear retraction along with the normal electrical equipment discharges the battery below the point needed to excite the alternators. Procedures for starting alternators in flight with a dead battery are outlined in the EMERGENCY PROCEDURE section.

AIRFRAME

CABIN INTERIOR

Three cabin interior arrangements are available for the Queen Air B80. The standard interior configuration consists of five forward facing chairs and an aft baggage compartment. The standard executive version consists of four executive lounge chairs or two executive lounge chairs with a four-place divan plus a toilet and fore and aft cabin dividers. The airliner version consists of seven commuter and two folding passenger chairs with an extended aft baggage compartment. To suit individual desires, reclining seats are track mounted to slide fore and aft. To slide the seats, pull up the latch release bar under the forward edge of the seat. Make sure the latch locks when the bar is released. Depressing a thumb lever on the aisle side of the seat will allow the seat back to recline. The seats can be easily removed to convert the cabin area for cargo loading. Refer to the B80 Shop Manual for detailed seat removal procedure.

At the rear of the cabin, the standard Queen Air provides more than 53 cubic feet of baggage space, with a weight capacity of 350 pounds. All luggage stored in this area is readily accessible in flight.

Over each passenger seat is an overhead panel which contains a directional fresh air vent and reading light. Both the vent and the light are mounted in ball-and-socket joints and may be swiveled in any direction. In addition, the ventilator nozzle rotates to control air flow. Counter-clockwise rotation opens to increase air flow; clockwise rotation decreases air flow.

FLIGHT CONTROLS

The primary flight control surfaces are operated through push-pull rods and conventional closed-circuit cable systems, terminating at bell cranks. The preformed, carbon steel cables run over phenolic pulleys with sealed ball bearings which ordinarily need no lubrication to ensure friction-free action and long life.

CONTROL COLUMNS

Duplicate sets of flight controls are provided in the cockpit, permitting complete control of the aircraft from either the pilot or copilot seat. Dual control columns operate the elevators and ailerons.

RUDDER PEDALS

Rudder operation, nose wheel steering, and individual main wheel braking are controlled by the rudder pedals. A spring loaded adjustment lever on each pedal enables the individual pilot to adjust the rudder pedals fore and aft.

TRIM TABS

The rudder, elevator and left aileron trim tabs are adjustable from the center pedestal through closed circuit cable systems which drive actuator jackscrews. Position indicators for each of the trim tabs are located near their respective controls. The elevator tabs incorporate anti-servo mechanisms; as the control surface is displaced from the neutral position, the tab moves in the same direction, increasing the effective control surface area and the force necessary to displace it.

WING FLAPS

Flap motor operation is controlled by a three-position switch (UP, APPROACH, and DOWN) in the subpanel center. The flap position indicator located to the right of the switch indicates flap position in percent of travel. Flap limit switches, mounted on the right inboard flap, limit flap travel within the specified range in both the APPROACH and DOWN positions. A 20-ampere push-pull circuit breaker on the right subpanel protects the flap motor circuit in case of overload during normal operation.

When the flap switch is pushed down to the APPROACH detent, the flaps extend to the 50% (15°) approach flap position and stop. For the remainder of the flap extension, the APPROACH position acts as an OFF position. Returning the switch to the APPROACH position stops the flaps in place. To regain APPROACH position flaps from the full down position, first raise the flaps to less than 50% and then return the switch to the APPROACH detent.

LANDING GEAR SYSTEM

The Queen Air's landing gear incorporates Beech air-oil type shock struts that are filled with both compressed air and hydraulic fluid. Their correct inflation should be checked before each flight. EVEN BRIEF TAXIING WITH A DEFLATED STRUT CAN CAUSE SEVERE DAMAGE.

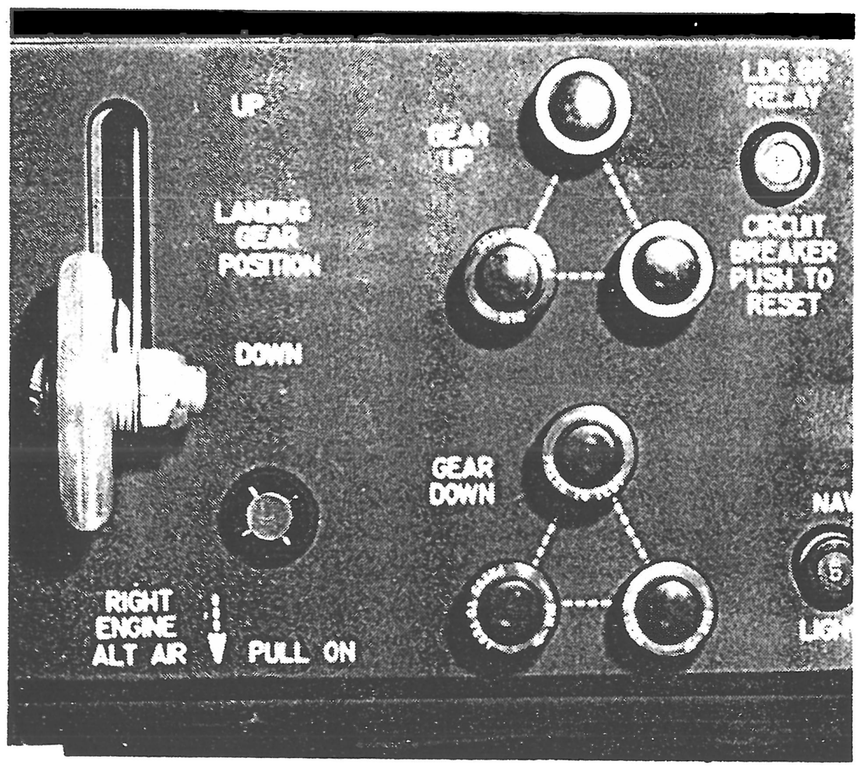
The landing gear is operated by a 28-volt DC motor. To prevent over-travel of the gear, the motor also acts as a dynamic brake.

POSITION SWITCH

The landing gear motor is controlled by the gear position switch located to the right of center on the subpanel (placarded UP and DOWN). A 50-ampere push-to-reset circuit breaker on the floor beside the pilots seat protects the system from electrical overloads.

POSITION INDICATORS

The position of the landing gear is indicated by twin triangles of indicator lights and an unsafe condition warning horn system. These lights are located to the right of the landing gear switch on the subpanel. The three upper lights



are red for up, and the three lower lights are green for down. All lights are out during gear transit, and the warning horn will blow any time all gears are not down and locked when either throttle is retarded. Each indicator light is of the press-to-test type, and the condition of the bulb may be checked by pushing in on the housing.

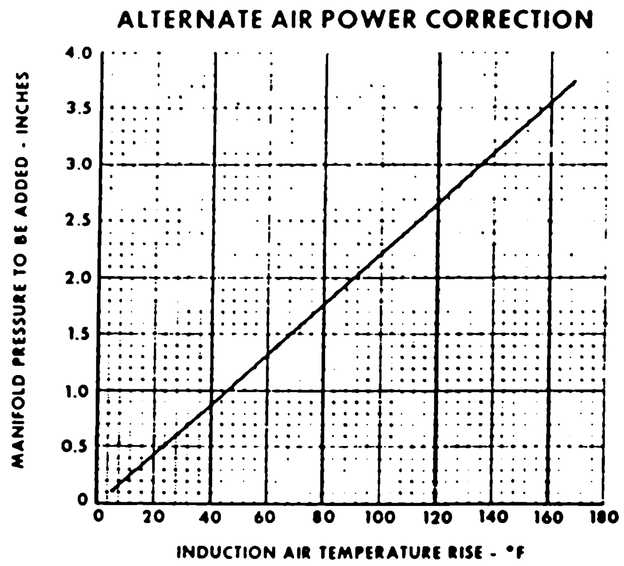
WARNING HORN

The up indicator, down indicator, and warning horn systems are completely independent systems. A malfunction in any one system will probably leave the other two systems unaffected. When the throttle is retarded below a manifold pressure sufficient to maintain safe flight with any one gear not down and locked, the circuit is closed and the warning horn sounds to inform the pilot that one or more of the three landing gears is not down and locked.

If a doubt exists as to the safety of your landing gear, a fly-by for tower observation is recommended. Refer to EMERGENCY PROCEDURE section for manual extension procedure.

ENGINE ICE PROTECTION

Induction system icing may occur when flying through visible moisture at + 5°C (+41°F) or below. To minimize the possibility of icing, always apply FULL ALTERNATE AIR before entering these conditions. (LD-270 through LD-327 - Select FILTERED AIR before application of ALTERNATE AIR to shut off ram air and make the alternate air control easier to operate.)



Possible indications of impact icing may be a decrease in manifold pressure, or engine roughness. When either of these conditions occur in visible moisture, apply full alternate air immediately. Continue using full alternate air until you are assured that all ice has been removed and you are well clear of icing conditions. If returning to ram/filtered air causes engine roughness, due to melting snow or ice remaining in the air scoop, return immediately to full alternate air. Application of alternate air will necessitate changing your power setting in order to maintain the desired horsepower.

Use the following procedure in making the power setting change.

1. Observe manifold pressure and induction air temperature before application of full alternate air.

2. After application of full alternate air, increase manifold pressure to the original setting or to full throttle, whichever is reached first.

3. If additional manifold pressure is available, add manifold pressure as indicated on the Alternate Air Power Correction graph.

FLUID FLOW ANTI-ICE SYSTEM

The windshield and propeller blades may be protected from ice formation by the application of anti-ice fluid. The two systems are pump driven and have a common 3-gallon supply tank, located at the left wing root. The windshield anti-ice switch is a momentary on-off switch. Anti-ice fluid will be applied to the windshield as long as the switch is held in the ON position; when released the switch returns to the OFF position. The propeller anti-ice switch is a rheostat type, placarded OFF, INCR and NORM. When operated in the NORM position, the system has a duration of 1.7 hours. When the selector is at maximum, system endurance is limited to approximately 35 minutes.

PROPELLER ELECTROTHERMAL DEICE

Electrothermal deice boots cemented to the propeller blades remove ice from the propellers. Each boot, consisting of one outboard and one inboard heating element, receives its electric power through a deice timer.

The timer directs current to the propeller boots in a cycle of first the outboard halves followed by the inboard halves on one propeller, then the outboard halves and inboard halves of the other propeller. Four intervals of about 30 seconds complete one cycle. When ice formation shows up on the propeller blades or when ice is expected, move the PROP DEICE switch, located on the left subpanel, to the ON position to start the timer cycle. The propeller ammeter will indicate between 14 and 18 amperes, with minor fluctuations about every 30 seconds during normal operation. The fluctuations show that the timer is switching properly. If the ammeter readings are above or below normal limits, watch closely for propeller imbalance and refer to the operating procedures contained in the EMERGENCY PROCEDURES section.

HEATED WINDSHIELD

Electrically heated windshields are controlled by a three-position switch located on the left subpanel. In the center position, the WINDSHIELD ANTI-ICE switch turns windshield heating elements OFF.

When the toggle is pushed up to the BOTH position, heat is applied to both the pilot's and copilot's windshield. Switching the toggle down to the PILOT position heats only the pilot's windshield.

CAUTION

When the heated windshield system is in operation, the standby compass becomes erratic.

SURFACE DEICE SYSTEM

Deice boots cemented to the leading edges of the wings and the tail surfaces are operated by engine-driven pump pressure. Compressed air, after passing through the pressure regulator, and vacuum, from the suction side of the pump, go to the distributor valves (pressure only LD-362 and after). When the deice system is not in operation, the distributor valves apply vacuum to the boots to deflate and

hold the boots flat against the surface. Then, when the deice system is operated, the distributor valves change from vacuum to pressure and the boots inflate. After the cycle is completed, the valves return to vacuum hold down.

A three-position switch, with a center OFF position, a momentary down SINGLE position, and an up AUTO position controls the system. When switched to the SINGLE position, the deice boots automatically inflate for a period of five to six seconds, then deflate and return to vacuum hold-down. In the AUTO position, the boots are cycled in consecutive order, followed by a dump period. The complete cycle takes 60 seconds and will continue automatically until the switch is turned off.

Deice boots are intended to remove ice after it has accumulated rather than prevent its formation. If the rate of ice accumulation is slow, best results are obtained by leaving the deicing system off until 1/2 to 1 inch of ice accumulates. Never apply several SINGLE pulses in rapid succession, since this may cause the ice to grow outside the contour of the inflated boots and prevent ice removal.

Wing ice lights, used to check for ice accumulation during night operation, are located on the outboard side of each nacelle. The light switch is on the left electrical subpanel.

AUXILIARY ICE PROTECTION

Both the left pitot head element and the stall warning heat element are turned ON by moving the LH PITOT HEAT switch to the ON position. The AUX ANTI-ICE switch controls both the heat fuel vents, the right pitot heat, and the cabin air inlet anti-ice boot.

ALTERNATE STATIC AIR

The Queen Air is equipped with an alternate static air source designed to supply alternate static pressure to the instruments should the fuselage static ports become obstructed. An indication that the normal static source has become restricted, such as an erratic or abnormal instrument readings, rotate the control knob on the right side panel to the ON position. Consult the graphs in Section IV FAA PERFORMANCE for Airspeed Calibration and Altimeter Correction.

STALL WARNING INDICATOR

The stall warning indicator, triggered by a sensing vane on the leading edge of the left wing, actuates a warning indicator and flashes a light on the instrument panel. The warning signal will be irregular and intermittent as a stall is approached, but will become steady as the aircraft nears a complete stall. At first warning, there will still be ample time to correct flight attitude. The system will operate in all configurations and weights.

OXYGEN SYSTEM

WARNING

Proper safety measures must be employed when using oxygen, or a serious fire hazard will be created. NO SMOKING PERMITTED.

DESCRIPTION

The recommended masks are provided with the system. The masks are designed for ease of adjustment to fit the average person comfortably, with minimum leakage of oxygen.

CAUTION

Make certain the masks fit properly since 90% of the system efficiency is determined by the fit of the oxygen mask.

Properly fitted masks are considered adequate for continuous use to 30,000 feet.

The oxygen cylinder is located at the aft end of the forward baggage compartment. The system is available with four, five, or six outlets and with a 22, 48, or 64 cu ft oxygen bottle. The supply of oxygen to the system is controlled by a shut-off valve on the subpanel. A pressure gage indicates the supply of oxygen available (1850 psi is normal pressure for a full supply in the bottle). A low pressure gage indicates oxygen flow for a corresponding altitude.

An alternate compensating regulator on LD-438 and after will provide a varying flow of oxygen with altitude. Flow is varied automatically from 0.5 liters per minute at 5,000 feet to 3.5 liters per minute at 30,000 feet.

1. Place the system in operation by slowly opening the shutoff valve (the shutoff valve on the oxygen cylinder must also be open).

CAUTION

The shutoff valves of all high pressure oxygen systems should be opened slowly to prevent possibility of damage.

2. Select mask and hose. All masks provide the same flow to both pilot and passengers. Check for proper fit of mask and adjust if necessary. Proper fit is important at high altitudes.

3. Plug in oxygen mask and check for oxygen flow by noting that the bag expands or by checking the flow indicator in the hose.

4. Discontinue use by unplugging outlets. Closing the control valve on the subpanel is also necessary to ensure complete oxygen flow stoppage.

SECTION X

SERVICING

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INTRODUCTION TO SERVICING

In the event that a question arises concerning the care of your Queen Air B80, it is important that you include the aircraft serial number in any correspondence with Beech Aircraft Corporation. The serial number may be found on the Manufacturer's Identification Plaque located on the fuselage under the left horizontal stabilizer or on the aft frame of the cabin entrance door.

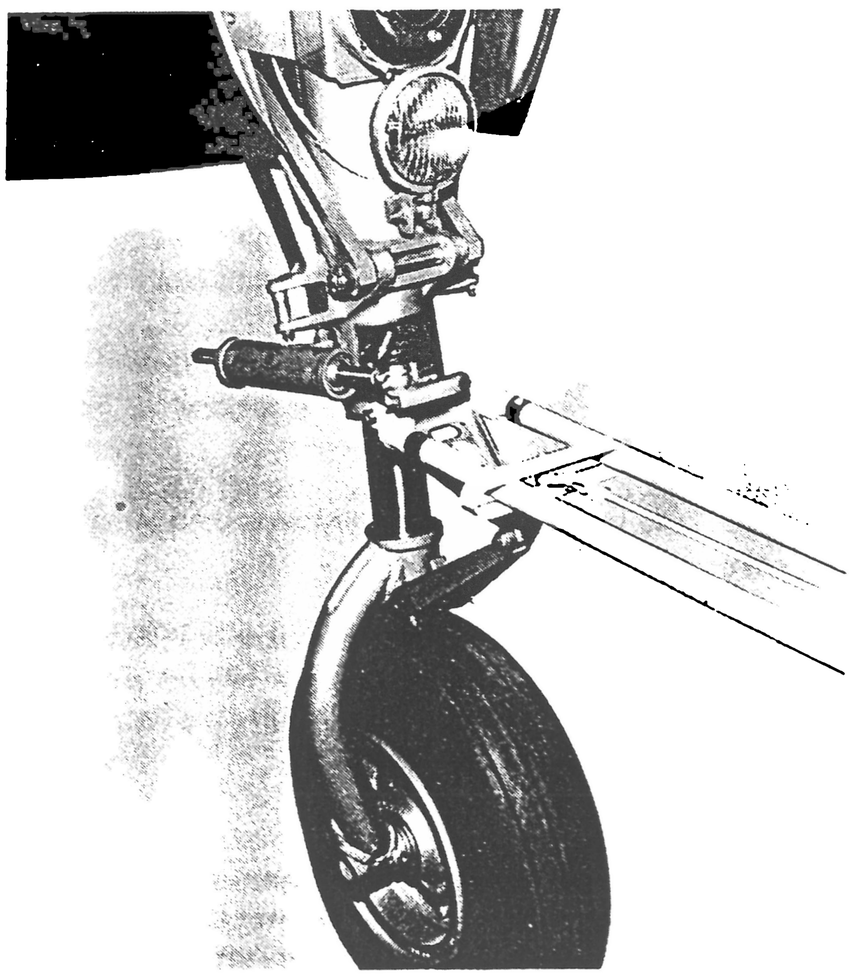
GROUND HANDLING

TOWING

Your BEECHCRAFT Queen Air has a tow bar that clamps to the extension of the upper torque knee pin on the nose gear sturt. An optional tow bar assembly is available to use when towing the airplane with a tug. Although steering is automatic when towing the aircraft by the nose gear, have someone in the cockpit to operate the brakes in case of an emergency.

CAUTION

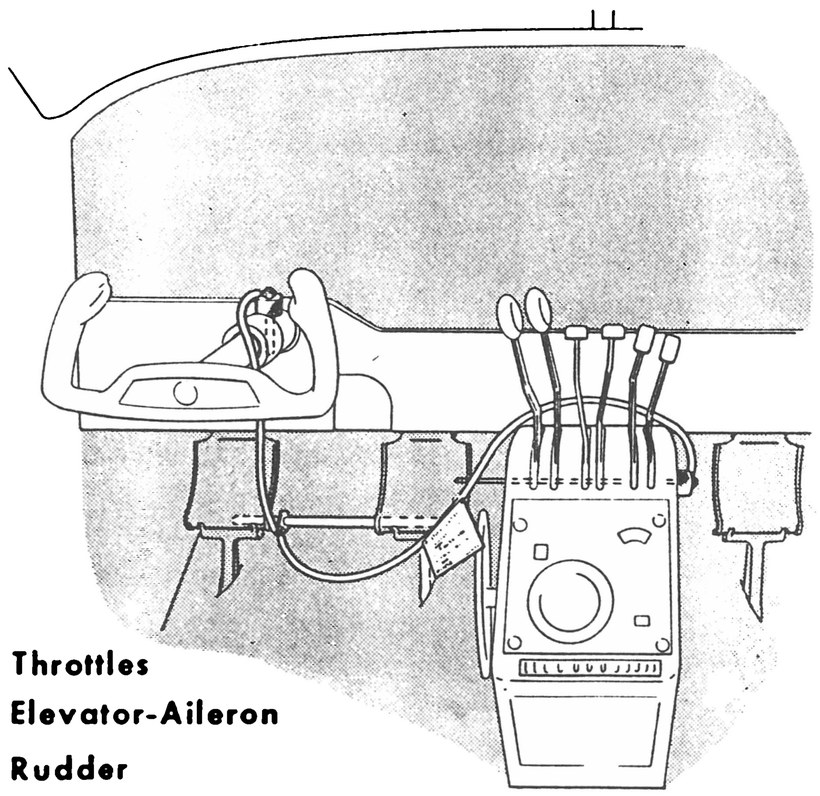
The nose wheel steering linkage will be seriously damaged if the airplane is towed with the rudder control lock installed.



If you use a tug to tow the airplane, never exceed the towing limits marked on the nose gear casting. When spotting the airplane, don't push on the propeller or control surfaces or pull down on the horizontal stabilizer to raise the nose wheel off the ground.

CONTROL LOCKS

Control locks, consisting of three pins connected together with a chain, hold the flight controls in the neutral position and the throttles closed. Always install the pins in the following sequence:



Throttles
Elevator-Aileron
Rudder

To prevent taxiing or take-off with the pins installed, ALWAYS remove them in the reverse order; i.e. Rudder first, Elevator-Aileron next, and Throttles last.

When installing the control locks, insert the throttle locking pin through the control pedestal to hold the throttles closed, the elevator-aileron pin through the pilot's control column assembly, and the rudder pin (the largest of the three pins) through the pilot's rudder pedals.

For added convenience and safety, the control lock assembly chain has a placard attached to it reminding you of the proper sequence.

TIE-DOWN

The best protection for your airplane when left outside is to follow proper tie-down procedures. To tie down your airplane securely, use the following steps.

1. Chock the wheels fore and aft.

2. Install the control locks.

3. Tie each wing with a rope or chain through its mooring eye.

4. Tie the tail with a rope or chain through the tail mooring eye.

NOTE

Never tighten the tie-down lines so tight that the shock struts compress or the nose wheel raises. If the rear line is too tight, the nose will rise and the angle of attack increased to the point that high winds will produce lift.

SERVICING

EXTERNAL POWER

Located in the outboard side of the left nacelle, the external power receptacle accepts a standard AN type plug to supply power for ground checks, air conditioner operation, or starting assist.

If the unit does not have a standard AN plug, check the polarity and connect the positive lead from the external power unit in the center post and the negative lead to the front post of the airplane's external power receptacle. The smallest of the three pins is a locating guide pin.

CAUTION

A negative ground auxiliary power source is required. If the polarity of the power source is unknown, turn all switches OFF. Then, with the auxiliary power source connected and operating, depress the voltmeter button; the indication should be positive.

On aircraft serials LD-317 and after, the electrical system is protected against damage from an external power unit with reversed polarity by the external power relay. If the polarity of the external power unit is reversed the reverse polarity protection circuit will not close, thus preventing the current flow to the aircraft.

BATTERY

The 24 volt, nickel-cadmium battery, located in the nose section, operates in a temperature range of -20°F to + 165°F. It will accept a charge anywhere in this range.

Nickel cadmium batteries are significantly different from lead acid batteries. When service is required for your nickel cadmium battery, it is recommended it be serviced at your authorized BEECHCRAFT Parts and Service Outlet.

MAGNETOS

Ordinarily, the magnetos will require only occasional adjustment, lubrication, and breaker point replacement. This work should be done by your Beechcraft Sales and Service outlet.

CAUTION

A special breaker grounding spring on the 1200 series magnetos shorts the primary lead at all times when the magneto switch terminal is disconnected at the magneto. However, in the interest of safety, it is recommended that the spark plug leads be disconnected or the cable outlet plate removed from the rear of the magneto during maintenance operations.

PROPELLERS

Since propellers will pick up loose pieces of rock or debris from the ramp and runway, the blades should be checked periodically for damage. Minor nicks in the leading edge of blades should be filed out and all edges rounded, since cracks sometimes start from such defects. Use fine emery cloth for finishing the depressions. Your daily inspection should include examination of blades and spinner for visible damage or cracks and inspection for grease or oil leakage.

At engine overhaul, a complete disassembly and inspection of the propeller is recommended, with appropriate replacement and refinishing of parts.

Proper adjustment of the governors and propellers will produce the following:

Static rpm - 3350 ± 50 @ 45 in. Hg M.P. (Std. Day)
Low Pitch - 18 1/2° +0° -1/2° @ 30-inch station
Full Feather - 87° ± 1/2° @ 30-inch station
Low rpm (High Pitch) - 2400
Feathering rpm - 2325

In operating situations, some variations from these rpm figures may be experienced due to wind loads, altitude, and other aerodynamic variables. Consistent variation, however, would indicate the need for maintenance checks conducted under standard conditions.

PROPELLER UNFEATHERING ACCUMULATOR

To ensure proper operation, the propeller unfeathering accumulator should be checked periodically for correct pressure. To check the air pressure, position the propeller controls for high rpm to exhaust the oil from the accumulators. Maintain the pressure at 100 ± 5 psi. The accumulators are located on the outboard side of each firewall.

LANDING GEAR

JACKING

A three-point jack-pad system has been provided in the Queen Air. The two aft pads are located on the center section rear spar inboard of each nacelle. The forward jack pad is located near the aft edge of the nose wheel well, to the left of the fuselage center line. Jack points have been provided on each landing gear so that the wheels can be raised individually for changing tires or making minor brake repairs.

SHOCK STRUT

To check the hydraulic fluid level in the air-oil shock strut, first release the air pressure through the filter valve.

WARNING

Never attempt to remove the filler plug until all air pressure is released.

Remove the filler valve and bring the fluid level up to the bottom of the gage tube with MIL-H-5606 hydraulic fluid. Replace the filler plug.

Inflate the main strut to 3 inches.

Inflate the nose strut to 3 to 3.5 inches.

The airplane should be empty, except for oil and fuel when inflating the struts.

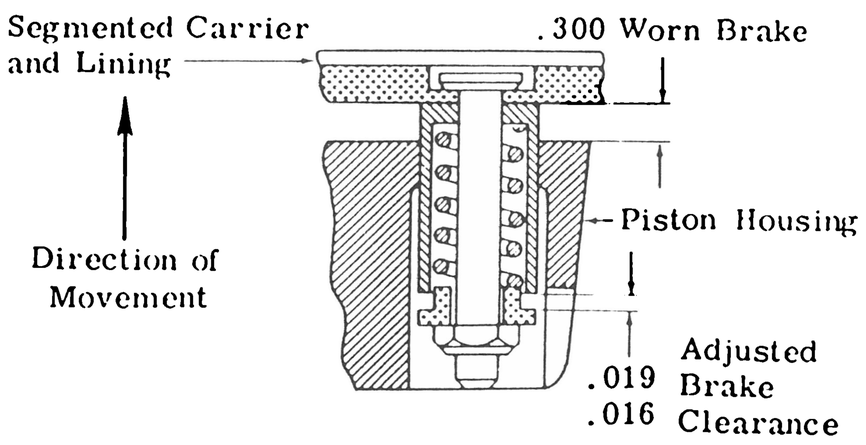
BRAKES

Brake lining adjustment is automatic, eliminating the need for periodic take-up adjustment of the brake clearance. To check brake wear, apply brake pressure, push in on the lining wear indicator, and if the end of the indicator is flush with the face of the lining wear indicator bushing, a complete set of new lining should be installed.

Check the hydraulic fluid level in the brake reservoir regularly and, when low, fill with MIL-H-5606 hydraulic fluid to within one inch of the top.

HEAVY DUTY TYPE BRAKES

Each wheel brake is equipped with (3) automatic brake clearance adjusters that maintain running brake clearance. These are adjusted when new brakes or new linings are assembled and require no adjustment while installed on the airplane. Wear of the brake linings can be checked by measuring the distance between the carrier lining and the piston housing (see illustration). Whenever this distance is greater than .30 inch, a brake inspection should be performed. For more detailed servicing of the wheels and brakes refer to the BEECHCRAFT King Air Shop Manual.



BRAKE ADJUSTER

TIRES

When servicing sidewall inflating tubeless tires, use the following procedure:

1. Lubricate the end of the inflation needle by pressing it against the glycerine-saturated pad in the case.

2. Lubricate the guide hole of the colored valve with the needle.

3. Insert the lubricated end of the inflation needle into the guide hole of the colored valve with a rotary motion.

NOTE

Be sure that the valve opening is well lubricated before inserting the needle. The needle should never be inserted dry. DO NOT FORCE THE NEEDLE. If it doesn't enter easily, relubricate.

4. Inflate the tire using a standard air chuck.

Nose Gear Tire - 40 to 45 psi.
Main Gear Tire - 46 to 50 psi.

OIL SYSTEM

To service the 4 gallon oil tank located in the top of each nacelle, open the quick release access door on the top of the nacelle and remove the filler cap. A dip stick attached to the filler cap indicates the oil level in the tank. Under normal operating conditions the oil level should be maintained at the maximum level of 3.5 gallons.

Change the oil every 100 hours under normal conditions, using only the oil recommended in the Oil Viscosity Chart below. Oil grades listed in the Oil Viscosity Chart are recommendations only, and vary with individual circumstances.

Clean the oil filter every 50 hours and at every oil change. To clean the filter, unscrew the filter cover and remove the filter assembly from the oil pump. Next, remove the disc retainer nut and disassemble the filter disc. Clean the filter discs with solvent, Federal Spec. PD680, check them for damage, and note the amount and kind of solid material trapped by the filter. Reassemble and install the filter discs in the pump. Tighten the filter to finger tightness in the

OIL VISCOSITY CHART

Average Ambient Air Temperature	MIL-L-6082B Grade	Ashless Dispersant MIL-L-22851
Above 60°F	SAE 50	SAE 40 or SAE 50
30° to 90°F	SAE 40	SAE 40
0° to 70°F	SAE 30	SAE 40 or SAE 30
Below 10°F	SAE 20	SAE 30

A.D. Ashless Dispersant

filter chamber, then torque it to 40-50 inch-pounds. Do not over-torque the body; deformation may result, changing the flow characteristics of the filter. Install the filter cover with a new gasket, tightening it to 100-200 inch-pounds torque.

Until recently, Lycoming has approved only straight mineral base aviation grade, nondetergent oil. Some aviation additive type oils, including the ashless dispersant types, are now recommended. When a change to an additive type oil is made, the following recommendations should be observed.

CAUTION

Under no circumstances should such materials as "top cylinder lubricates," "dopes," or "carbon removers" be used. These products may cause damage to the engine, and their presence in an engine will void the owner's warranty. The use of automobile lubricants is also grounds for rejection of any warranty claims. Any lubricating oil, either straight mineral or compounded, must conform with Lycoming Specification No. 301E.

A new or recently overhauled engine may operate on straight mineral oil up to the first 50 hours until normal oil consumption is obtained. When changing from straight mineral oil to dispersant oil, do not mix the oils. After five operating hours, drain the crankcase and check the oil filter for evidence of sludge or plugging. If the filter shows signs of plugging, change the oil after each ten operating hours until sludge conditions improve, after which normal oil drain periods may resume.

An all climate synthetic aircraft engine lubricant, Anderol 456H, is approved by Lycoming. Owners desiring detailed information concerning the use of Anderol 456H should consult Lycoming Service Letter No. L147. Anderol 456H must be used in accordance with the provisions specified in this service Letter.

FUEL SYSTEM

On LD-280 and after, both the outboard and inboard wing tanks of each side of the system may be serviced through the filler neck in the upper outboard section of each wing. On LD-270 through LD-279 service the inboard tank through the filler neck in the upper center section of each wing and the outboard wing tanks through a single filler neck in the upper outboard section of each wing.

In both cases, use only fuels recommended in Consumable Materials. Ground the refueling hose to one of the airplane's grounding jacks before beginning to transfer fuel. Secure the filler cap immediately after servicing each tank.

Drain condensed water from the main and wing tanks at the drain points.

NOTE

Never leave the fuel tanks completely dry or the cell inner liners may dry out and crack permitting fuel to diffuse through the walls of the cell after refueling. If the cell is left empty for a week or more, spray the inner liner with a light coat of engine oil.

At least every 50 hours, inspect and clean the fuel selector valve strainer in each wheel well with either acetone or methylethylketone.

CAUTION

Do not permit acetone or methylethylketone to contact rubber "O" rings or gaskets, these substances cause rubber to expand.

At each 100-hour inspection remove the fuel strainer from the injector regulator assembly and clean in acetone or methylethylketone. The strainer is located opposite the regulator assembly fuel inlet. After reinstalling the strainer, check for leaks. Any fuel lines or fittings disconnected for maintenance purposes should be capped.

Clean the servo fuel line filter every 300 hours or more frequently as conditions warrant. Remove the cone shaped filter and wash in PD680 solvent, methylethylketone, or acetone.

TEMP. (°F)	INDICATED CONTAINER PRESSURE		
	MIN (PSIG)	NOM (PSIG)	MAX (PSIG)
-60	110	123	134
-40	127	142	155
-20	148	165	180
0	174	194	212
+20	207	230	251
+40	249	275	299
+60	304	329	354
+70	335	360	385
+80	367	393	417
+100	442	468	492
+120	532	559	582

The values indicated above represent the container pressure range allowable at each temperature.

The container must be stabilized at the temperature before an accurate pressure can be obtained.

Fire bottle pressures

PRESSURE SYSTEM (LD-362 and After)

The pressure system incorporates four filters (a pump intake and an in-line filter for each side of the system). The pump intake foam rubber section screen filter should be washed with soap and water every 100 hours of normal operation. If the aircraft is operated in dusty conditions the filters should be cleaned more often. The in-line filter is located between the pressure regulator and the instruments. This filter should be changed every 500 hours of operation.

VACUUM SYSTEM (LD-270 through LD-361)

Servicing the vacuum system involves keeping the instrument air cleaners, oil separators, and suction relief valves clean. A maximum of two vacuum driven gyro instruments is connected to each instrument air cleaner. The air cleaner, a sealed disposable unit, should be replaced every 500 hours.

Remove and clean the vacuum system's oil separator located on the forward side of the engine firewall near the top, every 100 hours, To remove the separator, disconnect the inlet, exhaust, and oil return lines and remove the bolts securing the separator to its mounting bracket. Plug the outlets and fill the separator with solvent, PD680. Allow it to soak, sloshing occasionally, and then drain. Dry with low pressure air blast and then reinstall.

The suction relief valve, located on the lower aft side of the engine firewall, acts as a vacuum regulator. Frequency of cleaning the valves varies with the airplane operating conditions. Often, when the suction relief valves appear to need adjusting to lower the vacuum, cleaning the screen will correct the problem without adjusting the entire system.

Remove the valve for cleaning by disconnecting the lines from the valve and removing the retaining nuts. Clean the valve with solvent, PD680, dry with compressed air, and reinstall. For vacuum system adjustment procedures, check the Queen Air Shop Manual.

HEATING SYSTEM

The heater ignition unit is equipped with two sets of igniter points that are controlled by the auto-manual switch. One set of points is connected into the circuit when the aircraft is delivered. This set is on continuously when the switch is positioned on MAN or AUTO. After 1000 hours of aircraft operation, the heater igniter circuit should be modified as noted in the wiring diagram section of the Queen Air Shop Manual.

The second set of points will then be effective. The vibrator and igniters are incorporated in a single sealed unit which plugs into the rear of the ignition coil. Access to the vibrator and ignition is through the right radio compartment door and requires the removal of the outboard radio compartment floor panel.

Fuel pressure to the heater, drawn from the left engine pump, is controlled by a fuel pressure regulator mounted on the left side of the nose wheel well. The heater fuel line is equipped with a solenoid valve in the nose wheel well and a second solenoid valve in the left engine compartment. The two valves prevent any seepage of fuel from the line into the heater when the heater is not operating.

Three heat sensing elements are wired into the automatic heat control system to set up a Wheatstone Bridge arrangement. Comprising this bridge system are the outside air sensing element, located on the rear face of the forward plenum assembly; the heater discharge sensing element, mounted in the hot air exit duct of the rear plenum chamber; and the cabin air sensing element, positioned in a panel overhead, just aft of the cockpit entry.

A temperature limit switch in the rear plenum hot air duct cycles the system off when temperatures reach 200°F. The system is further guarded by a thermoswitch that opens the system's electrical circuits by blowing a 5-ampere fuse, should temperatures reach 300°F.

HEATER FUEL FILTER ELEMENT CLEANING

1. Remove the large square access plate located on the lower side of the left wing center section just inboard of the nacelle. The filter is located forward of the spar.

2. Cut the lockwire from the filter bowl and body.

3. Remove the filter bowl and element.

4. Clean the element with solvent, Specification PD680 or equivalent, and blow dry with compressed air.

5. Reinstall the element and bowl. Safety the bowl with lockwire.

6. Reinstall the removed access plate.

OXYGEN SYSTEM

Your Queen Air can be equipped with an oxygen system that is supplied by one of three cylinders. The available cylinder capacities are: 22 cubic feet, 48 cubic feet, and 64 cubic feet. The cylinders are mounted either on the rear face of the aft cabin bulkhead, or under the nose baggage

compartment floor. The regulator automatically reduces the system pressure of 1800 psi to a suitable working pressure at the outlets.

The filler valve for the forward system is on the aft bulkhead of the nose compartment and is accessible for servicing by opening the right nose compartment door. The aft system is serviced through its filler valve, located to the left on the rear cabin bulkhead. To charge the oxygen system, remove the protective cap from the filler valve and attach the fitting from an oxygen recharging cart.

CAUTION

Inspect the filler connection for cleanliness before attaching it to the filler valve. Be sure that your hands, tools, and clothing are very clean and free from grease and oil, since these contaminants will ignite when in contact with pure oxygen under pressure.

Open the cylinder supply valve on the airplane and fill the system slowly by adjusting the recharge rate with the pressure regulating valve on the cart. When the pressure gage on the cylinder reads 1800 psi, close the pressure regulating valve and replace the protective cap on the filler valve.

ANTI-ICE SYSTEM FLUID FLOW

The purpose of the anti-ice system is to prevent the formation of ice on the propeller blades during flight. The prevention of icing is accomplished by wetting the blades with isopropyl alcohol anti-ice fluid. The system consists of a supply tank, pump, filter, quantity transmitter and indicator, check valves, slinger rings, circuit breaker, control rheostat and anti-ice boots.

The anti-ice tank is located in the left wing, inboard of the nacelle, just forward of the main spar. The tank has a capacity of 3 U.S. gallons of anti-ice fluid (See Consumable Materials). Access to the tank filler cap is through an access door in the upper wing skin. Check the fluid level and refill if necessary before each cold weather flight. The tank should be drained and flushed twice a year.

CLEANING

EXTERIOR CLEANING

Prior to cleaning the exterior, cover the wheels, making certain the brake discs are covered; attach pitot covers securely. Install plugs in, or mask off, all other openings. Be particularly careful to mask off both static air buttons before washing or waxing.

The airplane should be washed with a mild soap and water. Loose dirt should be flushed away first with clean water. Harsh, abrasive or alkaline soaps or detergents which could cause corrosion or make scratches should never be used.

CAUTION

Do not apply wax or polish for a paint cure period of 90 days after delivery. Waxes and polishes seal the paint from the air and prevent curing. For uncured painted surfaces, wash only with cold or lukewarm (never hot) water and a mild nondetergent soap. Any rubbing of the painted surface should be done gently and held to a minimum to avoid scratching the paint film.

Soft cleaning cloths or a chamois should be used to prevent scratches when cleaning and polishing. Any good grade automobile wax may be used to preserve painted surfaces.

To remove stubborn oil and grease, use soft cloth dampened with naphtha, then rewax and polish.

INTERIOR CLEANING

The seats, rugs, upholstery panels, and headlining should be vacuum cleaned frequently to remove as much surface dust and dirt as possible.

Commercial foam type cleaners or shampoos can be used to clean rugs, fabrics, or upholstery. However, be sure to follow the cleaner manufacturer's instructions.

CLEANING PLEXIGLASS WINDOWS

Since the plexiglass in the windows can be easily scratched, extreme care should be used in cleaning it. Never wipe the windows when dry. First, flush the surface with clean water or a mild soap solution, then rub lightly with a grit-free soft cloth, sponge, or chamois. Use trisodium phosphate completely dissolved in water to remove oil and grease film. To remove stubborn grease and oil deposits, use hectane, naphtha, or methanol. Rinse with clean water and avoid prolonged rubbing.

NOTE

Do not use gasoline, benzine, acetone, carbon tetrachloride, fire extinguisher fluid, deicing fluid, or lacquer thinners on plexiglass windows. They soften and craze the surface.

DEICE BOOT CLEANING

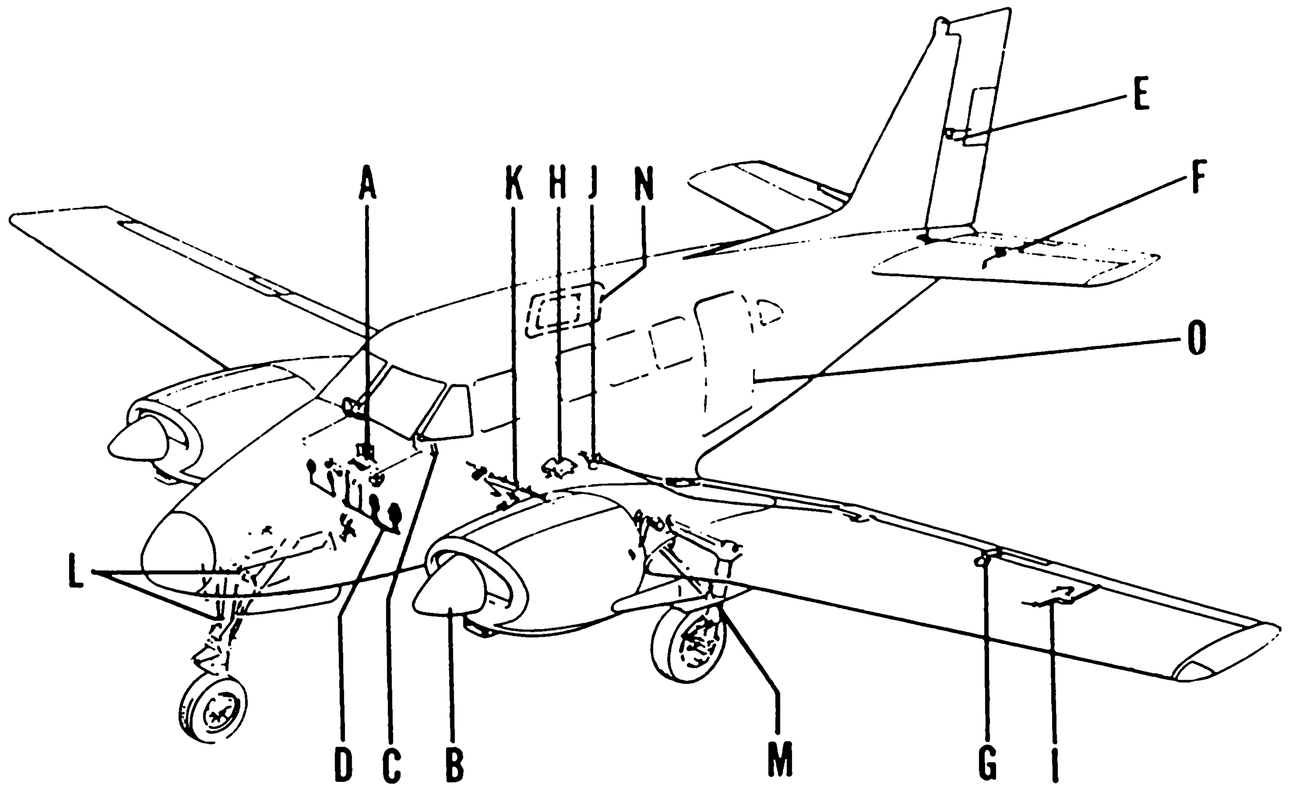
Check the surfaces of the deice boots for indication of engine oil after servicing and at the end of each flight. Remove any oil spots with a non-detergent soap and water solution. Exercise care during cleaning to avoid scrubbing the surface of the boots as this will tend to remove the special graphite surfacing. Also remember when servicing the airplane that the deice boots are made of soft, flexible stock which may be damaged if gasoline hoses are dragged over the surface of the boots or if ladders and platforms are rested against them.

RECOMMENDED SERVICING SCHEDULE

INTERVAL	ITEM	LOCATION *(Letters refer to Lubrication Points Diagram)*	MATERIALS *(Number refers to item on Consumable Materials)*
Preflight	Engine oil level (Check)	Top of each nacelle	(2)
	Fuel tank drains (2 drains)	Outboard section, each wing	
	Fuel strainer drains (2 drains) (4 drains)	LD-280 and after, inboard wing section. LD-270 through LD-279, inboard and outboard wing section	
	Fuel selector valve strainers	Wheel wells	
	Fuel tanks (service)	Each wing, outboard section LD-280 and after Each wing, outboard and inboard LD-270 through LD-279	(1)
Every 50 Hrs.	Firewall fuel filter (clean)	Wheel wells	(13)
	Oil screen (clean)	Lower left side of engine	(13)
	Lube Landing gear retract system shaft bearings	Under floorboards, center section (K)	(6)
	Lube nose wheel steering mechanism	Nose wheel well (L)	(6)
	Lube main landing gear grease fittings (8 zerks)	Main wheel wells (M)	(6)
	Lube main landing gear retract grease fittings (10 zerks)	Main wheel wells (M)	(6)
Every 100 Hrs.	Fuel strainers (2 strainers) (4 strainers)	LD-280 and after, wing center section. LD-270 through LD-279, inboard and outboard wing section	(13) (13)
	Suction relief valve filter (clean)	Top right side of nacelle	(13)
	Pitot static lines (drain)	Center section of wing leading edge	
	Propeller unfeathering accumulator (check)	Forward side of each firewall, outboard	100 lbs pressure
	Drain Engine oil	Each wheel well	(2)
	Landing gear struts	Top of each strut	(11)
	Lubricate propeller hub	Front of each engine (B)	(7)
	Lubricate rudder trim tab tube	Rudder (E)	(4)
	Lubricate rudder trim hinge	Rudder (E)	(10)
	Lubricate elevator trim tab control tube	Inboard side of elevators (F)	(4)
	Lubricate elevator trim tab hinges (one each elevator)	Aft edge of elevator (F)	(10)
	Lubricate landing gear retract chains	Nose wheel well and under floorboards (K)	(10)

100 Hrs. (Cont'd)	Lubricate landing gear manual extension mechanism	Under floorboard (K)	(3)
	Lubricate landing gear limit switch screw and nut	In cabin under floorboards (K)	Mix 45 grams of Molykote Z/lb of Mil-G-10924 grease
	Lubricate landing gear door hinges and retract linkage	Wheel wells (L) (M)	(4)
	Lubricate landing gear wheel bearings	Landing gears (L) (M)	(8)
	Lubricate emergency exit door mechanism	Emergency exit door (N)	(15)
Every 200 Hrs.	Lubricate trim tab controls	Cockpit (A)	(4)
	Lubricate control column linkage	Cockpit (C)	(4)
	Lubricate rudder pedals and bellcrank	Cockpit (D)	(4)
	Lubricate rudder trim tab actuator	Rudder (E)	(7)
	Lubricate elevator trim tab actuators	Elevators (F)	(7)
	Lubricate aileron trim tab actuators	Each wing forward of the aileron (G)	(7)
	Lubricate aileron control quadrant	Cabin, under floorboards (H)	(4)
	Lubricate aileron control bell cranks	At ailerons, outer wing (I)	(4)
	Lubricate cabin door latching mechanism	Cabin door (O)	(4)
Every 500 Hrs.	Replace instrument air filters	Wheel wells	Hastings IJ4-7
Every 1000 Hrs.	Lubricate flap actuator 90° drives drive shafts, and flap gear box	In cabin under floorboards, and center wing sections (J)	(9) (7)
	Lube Landing gear retract actuator jackscrews	Wheel wells (L) (M)	(6)
As Required	Service oxygen reservoir	Nose compartment, right side	(17)
	Brake fluid reservoir	Nose compartment, right side	(11)
	Static line drains	Access panel in upholstery under subpanel beside copilot	(after exposure to visible moisture in the air or on the ground)

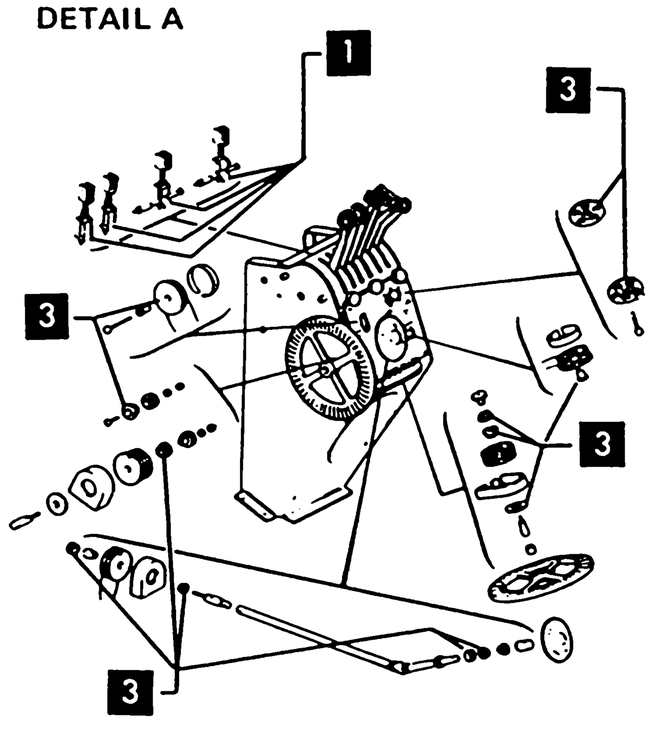
LUBRICATION DIAGRAMS



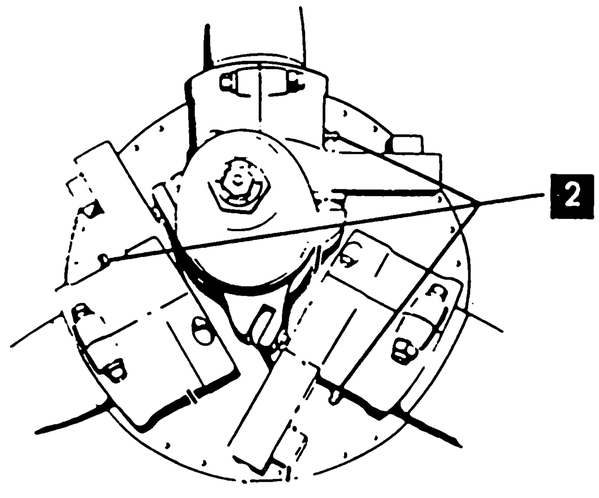
LUBRICATION POINTS

INDEX NO.	LOCATION	LUBRICANT	INTERVAL IN HRS.
1	ENGINE CONTROLS Linkage (All moving parts)	MIL-G-21164	As required for proper operation
2	PROPELLER Propeller Hub	MIL-G-25537 MIL-G-10924	100
3	TRIM TABS Controls	MIL-L-7870	200

DETAIL A



DETAIL B



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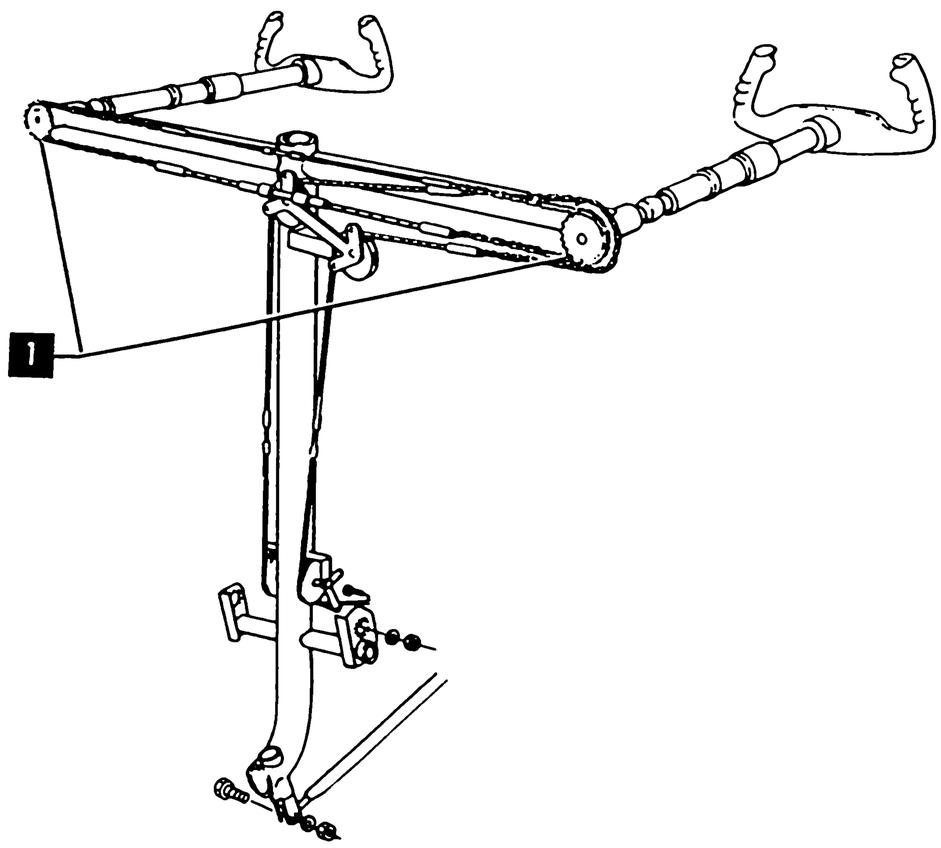
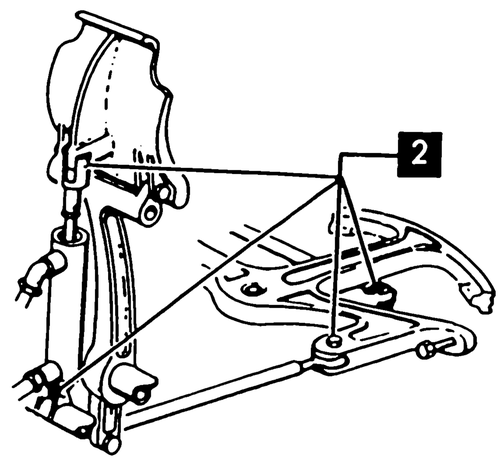
LUBRICATION POINTS

INDEX NO.	LOCATION	LUBRICATION	INTERVAL IN HRS.
1	CONTROL COLUMN Linkage	MIL-L-7870	200

DETAIL C



DETAIL D



INDEX NO.	LOCATION	LUBRICATION	INTERVAL IN HRS.
2	RUDDER PEDALS AND BELLCRANK Pedal and Bellcrank Linkage	MIL-L-7870	200

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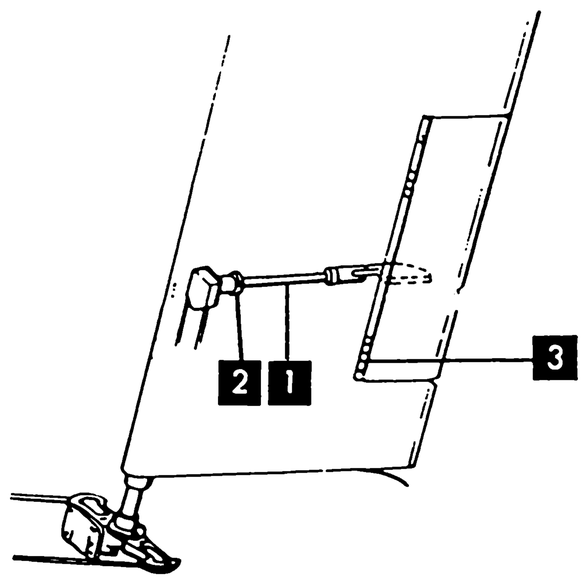
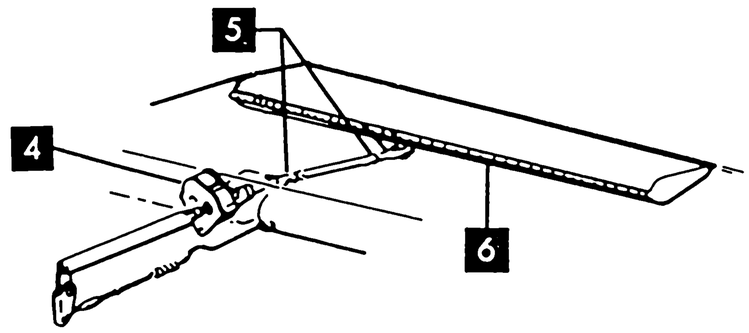
LUBRICATION POINTS

INDEX NO.	LOCATION	LUBRICANT	INTERVAL IN HRS.
	RUDDER ELEVATOR AILERON		
1	Rudder Trim Tab Tube	MIL-L-7870	100
2	Rudder Trim Tab Actuator	MIL-G-10924	200
3	Rudder Trim Hinge	Mix MIL-G-6711 Graphite with naphtha into a paste and apply with a brush.	100
4	Elevator Trim Tab Actuator	MIL-G-10924	200
5	Elevator Trim Tab Control Tubes	MIL-L-7870	100
6	Elevator Trim Tab Hinges	Mix MIL-G-6711 Graphite with naphtha into a paste and apply with a brush.	100

DETAIL E



DETAIL F



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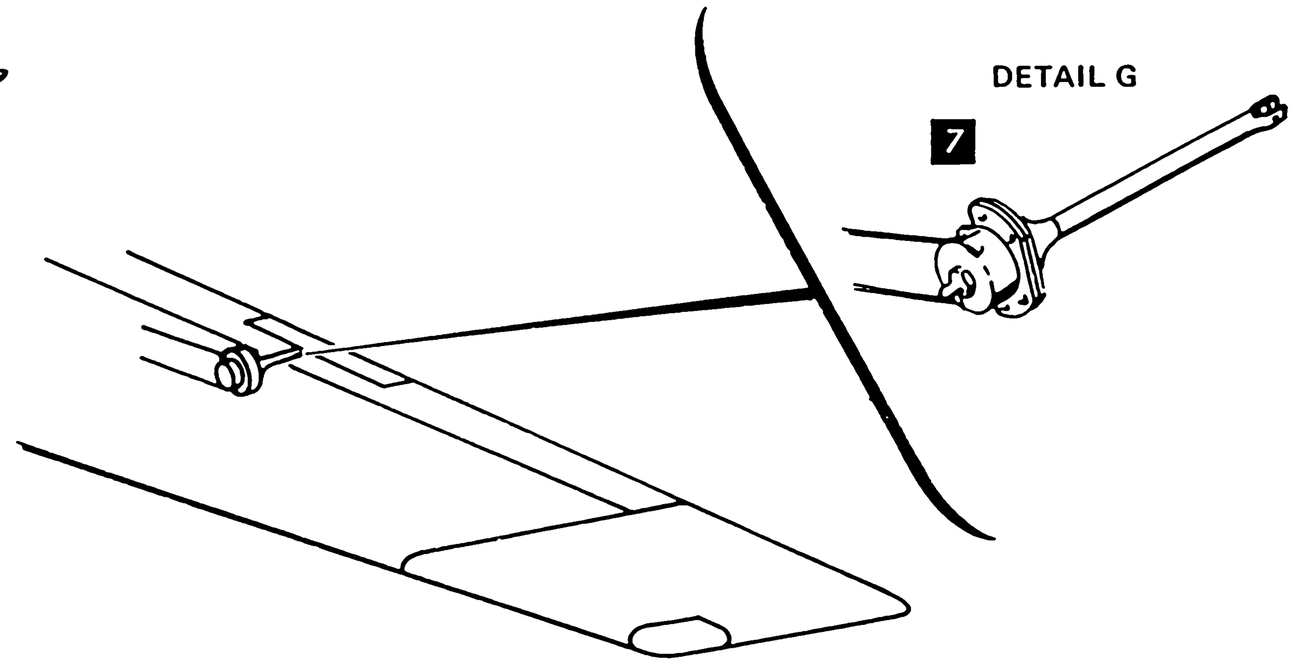


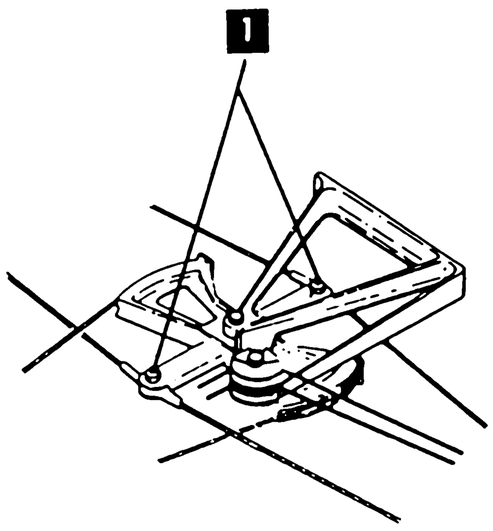
INDEX NO.	LOCATION	LUBRICANT	INTERVAL IN HRS.
7	Aileron Trim Tab Actuator	MIL-G-10924	200

B80-604-5C

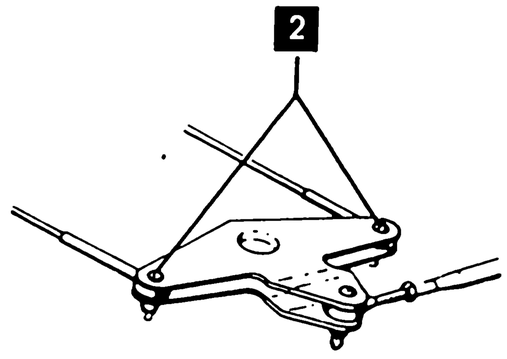
LUBRICATION POINTS

INDEX NO.	LOCATION	LUBRICATION	INTERVAL IN HRS.
	AILERON CONTROL SYSTEM		
1	Aileron Quadrant	MIL L-7870	200
2	Aileron Bell Cranks	MIL-L-7870	200

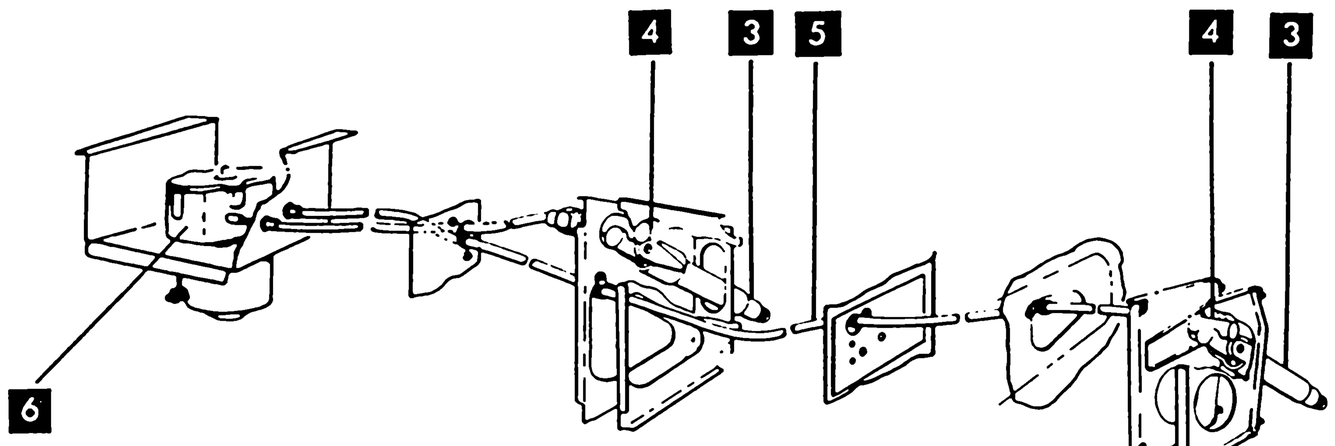
DETAIL H



DETAIL I



DETAIL J

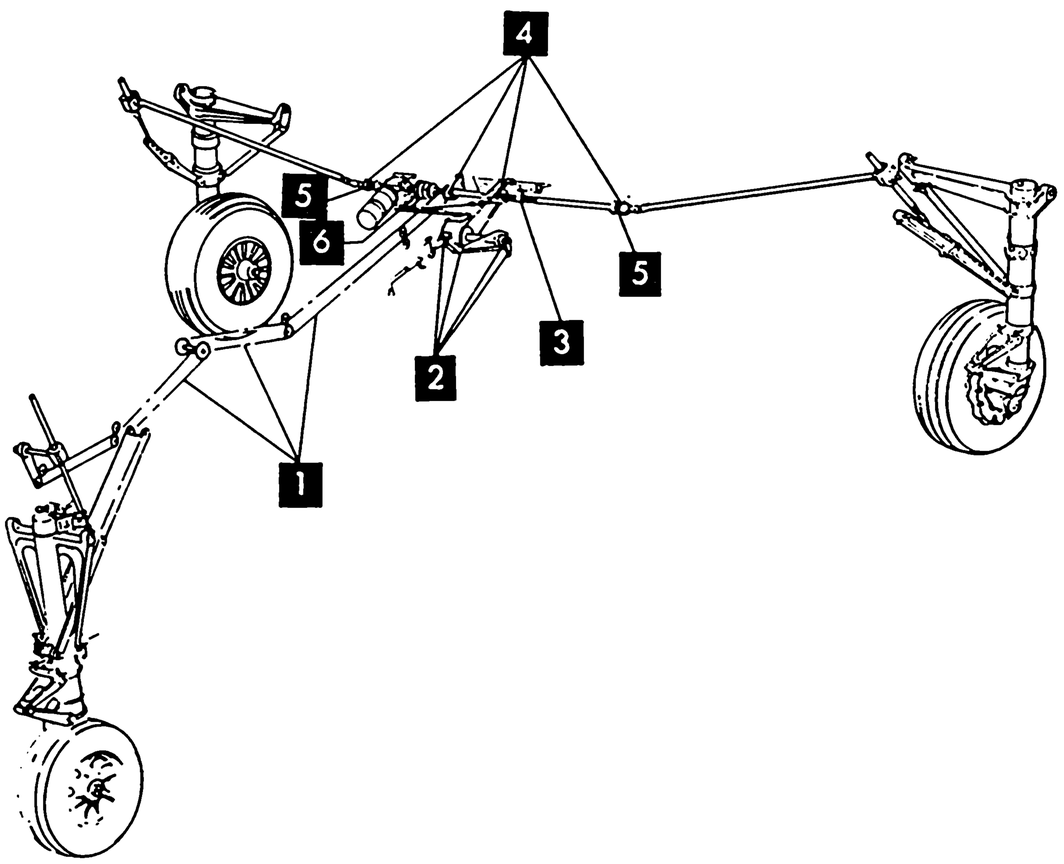


INDEX NO.	LOCATION	LUBRICANT	INTERVAL IN HRS.
	FLAP CONTROL SYSTEM		
3	Screw Jack	MIL-O-6068 Oil	As required
4	Flap Actuator 90° Drives	MIL-G-21164	1000
5	Flap Actuator Drive Shafts	MIL-G-10924A	1000
6	Flap Gear Box	MIL-G-10924A	1000

LUBRICATION POINTS

INDEX NO.	LOCATION	LUBRICANT	INTERVAL IN HRS.
1	LANDING GEAR RETRACT SYSTEM Retract Chains	Mix MIL-G-6711 Graphite with naphtha into a paste and apply with a brush. or PETROCHEM CHAIN LIFE Lubrication	100

DETAIL K



INDEX NO.	LOCATION	LUBRICANT	INTERVAL IN HRS.
2	Manual Extension Mechanism	VV-L-800	100
3	Limit Switch Screw and Nut	Mix 45 grams Molykote Z per pound of MIL-G-10924 grease. Wipe off all excess.	100
4	Shaft Bearings	MIL-G-7711	50

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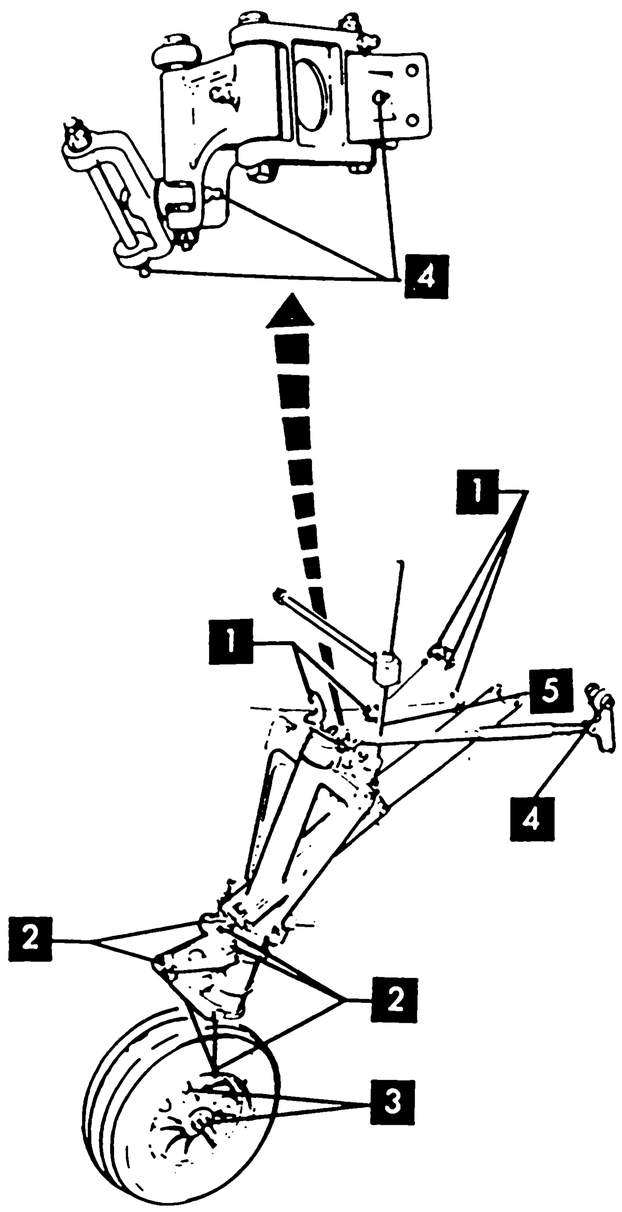
LUBRICATION POINTS

INDEX NO.	LOCATION	LUBRICANT	INTERVAL IN HRS.
	NOSE LANDING GEAR		
1	Door Hinges and Retract Linkage	MIL-L-7870	100
2	Grease Fittings	MIL-G-7711	100
3	Wheel Bearings	MIL-G-3545 or MIL-G-81322	100
4	Nose Wheel Steering Mechanism	MIL-G-7711	50
5	Retract Actuator Jackscrew	MIL-G-21164	1000

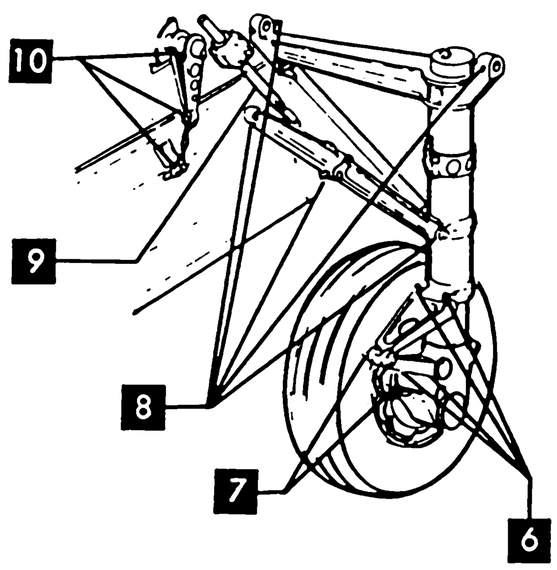
DETAIL L



NOTE

When lubricating the lower or upper strut bushing, jack the nose wheel up and shake and rotate the wheel to assure that the lubricant penetrates the contacting surfaces of the bushing.

DETAIL M



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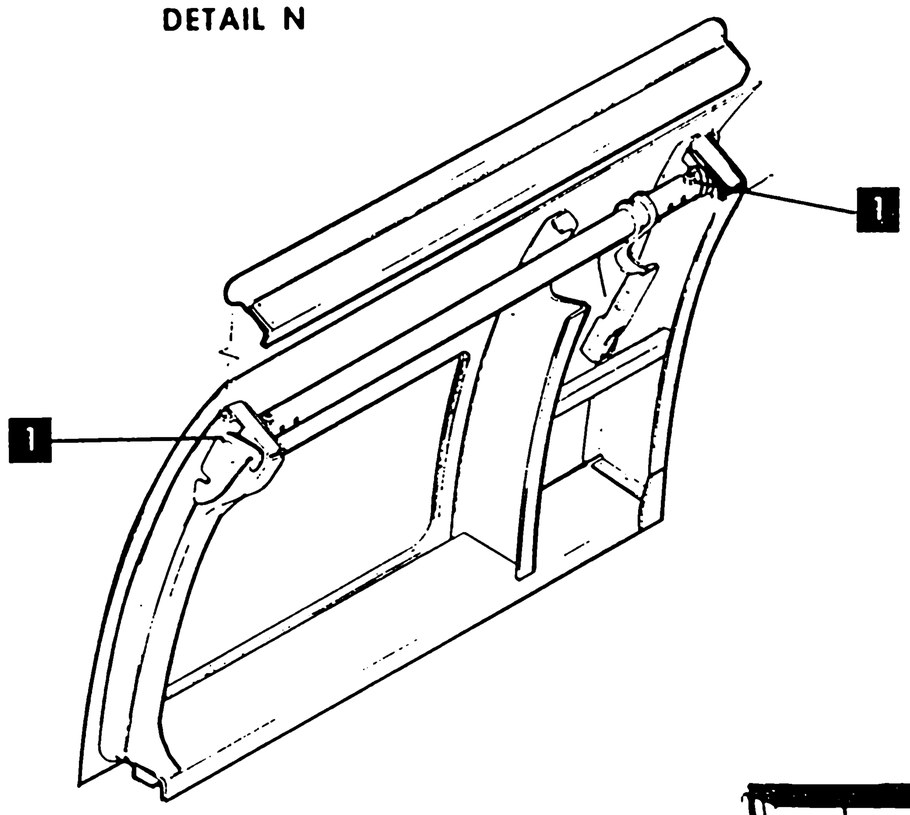
INDEX NO.	LOCATION	LUBRICANT	INTERVAL IN HRS.
	MAIN LANDING GEAR		
6	Grease Fittings	MIL-G-7711	50
7	Wheel Bearings	MIL-G-3545 or MIL-G-81322	100
8	Retract Grease Fittings	MIL-G-7711	50
9	Retract Actuator Jackscrew	MIL-G-21164	1000
10	Door Hinges and Retract Linkage	MIL-L-7870	100

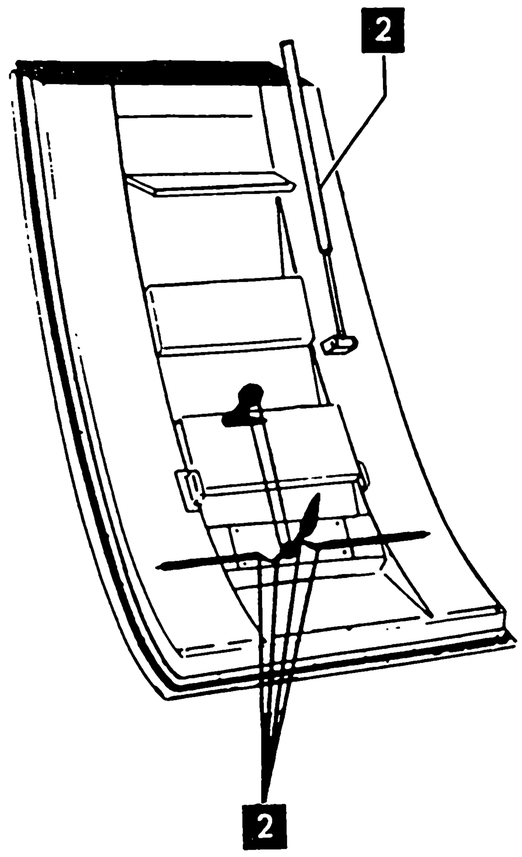
LUBRICATION POINTS

INDEX NO.	LOCATION	LUBRICATION	INTERVAL IN HRS.
1	EMERGENCY EXIT Door Mechanism	Molybdenum Disulfide MIL-M-7866	100

DETAIL N



DETAIL O



INDEX NO.	LOCATION	LUBRICATION	INTERVAL IN HRS.
2	CABIN DOOR Latching Mechanism	MIL-L-7870	200

B80-604-5G

CONSUMABLE MATERALS

The vendor products appearing in this table have been selected at random to help field personnel determine products conforming to the military specifications in this publication. The brand names are listed for ready reference and are not specifically recommended by Beech Aircraft Corporation. Any product which conforms to the referenced specification may be used.

ITEM	MATERIAL	SPECIFICATIONS	VENDOR PRODUCTS
1.	Fuel, Engine	100/130 (Green) Octane, if not available, use 115/145 (Purple)	
2.	Oil, Engine	MIL-L-6082B MIL-L-22851	
3.	Lubricating Oil (Special Preservatives)	VV-L-800	Gulflite Oil No. 7, Gulf Oil Corp. Pittsburg, Pennsylvania
4.	Lubricating Oil (general purpose low temperature)	MIL-G-7870	Esso Aviation Instrument Oil, Esso Std. Oil Co. 15 West 51st Street New York, New York Gulflite Oil 6, Gulf Oil Corp. P.O. Box 1166 Pittsburgh 30, Pennsylvania
5.	Lubricating Oil, Aircraft Reciprocating (Piston) Engine	MIL-L-6082	Conoco Aero Oil No. 1065 Continental Oil Co., Ponca City, Oklahoma Phillips 66 Aviation Engine Oil, Grade 1065, Phillips Petroleum Co., Bartlesville, Oklahoma Skelflite No. 100, Skelly Oil Co., El Dorado, Kansas Avrey 10V1100, Socony Mobil Oil Co., Inc., 150 East 42nd Street, New York, N.Y. 10017 Or any approved aircraft engine oil (graded at 1100 or 1065).
6.	Lubricating Grease (General Purpose)	MIL-G-7711	Regal AFB 2, Texaco Inc., 135 East 42nd Street, New York 17, N.Y. Aeroshell Grease No. 6, Shell Oil Co., 50 West 50th Street, New York 20, N.Y. 22442, International Lubricants Co., New Orleans, La.

CONSUMABLE MATERIALS (Continued)

ITEM	MATERIAL	SPECIFICATIONS	VENDOR PRODUCTS
7.	Lubricating Grease (Aircraft and Instruments, Low and High Temperature)	MIL-G-10924 MIL-G-25537	Supermil Grease No. A72832, American Oil Co., 910 South Michigan Avenue, Chicago, Ill. Royco 27A, Royal Lubricants Co., River Road, Hanover, N.J. Aeroshell Grease 7, Shell Oil Co., 50 West 50th. St. New York 20, N.Y.
8.	Lubricating Grease (High Temp.)	MIL-G-3545 or MIL-G-81322	Mobil Grease 28, Mobil Oil Corp. Shoreham Bldg. Washington D.C. 20005 Aeroshell Grease 5, Shell Oil Co., 50 West 50th St., New York 20, N.Y.
9.	Lubricating Grease, Graphite	MIL-G-21164	TG-4727, Texaco, Inc. 135 E. 42nd St. New York 17, New York Aeroshell Grease 17, Shell Oil Co., 50 West 50th Street New York, N.Y.
10.	Graphite, Lubricating	MIL-G-6711 or "Petrochem Chain Life"	GP-38, National Carbon Co. New York, N.Y. Ashland Chemical Co., P.O. Box 2260 Santa Fe Springs, California 90670
11.	Hydraulic Fluid	MIL-H-5606	Brayco 756D, Bray Oil Co., 3344 Medford Street, Los Angeles 63, California PED 3565, Standard Oil Co., of California, 225 Bush Street, San Francisco 20, California
12.	Anti-Ice Fluid	TT-I-735	Sherwood & Co., Wichita, Kansas
13.	Solvent	PD680	
14.	Soap Solution, Oxygen System, Leak-Testing	MIL-L-25567	
15.	Lubricant, Molybdenum Disulfide	MIL-M-7866	Molykote Z, Wilco Inc. Wichita, Kansas Molykote Z, Standard Oil of Kentucky Molykote Z, Hasket Seals Glendale, California

CONSUMABLE MATERIALS (Continued)

ITEM	MATERIAL	SPECIFICATIONS	VENDOR PRODUCTS
15. (Continued)			Molykote Z, Alpha Molykote Corp. Stanford, Conn. Moly-Paul Number 4, K.S. Paul Products Ltd. London, England
16.	Oxygen Thread Compound Anti-Seige and Sealing, Oxygen Systems	MIL-T-5542	No. 15, Rector Well Equipment Co., Houston, Texas Dag 217, Acheson Colloies Co., Port Huron, Michigan Key Abso-Lute, Type B, Key Co., East St. Louis, Illinois
17.	Aviator's Breathing Oxygen	MIL-O-27210	
18.	Naphtha	TT-N-95	
19.	Methyl Ethyl Ketone	MIL-M-13999	
20.	Thread Locking Compound		Stud Loc, Loctite Corp. Newington, Conn.
21.	Mix 45 Grams of Item 15 Per Pound of Item 7		
22.	Lubricating Oil, Gear	MIL-L-10324A or MIL-L-6086 Grade M	Trojan Gear Oil 6086M Cities Service Oil Co., New York, New York Aeroshell Fluid 5M, Shell Oil Co., 50 West 50th Street, New York, N.Y. L-1195, Sinclair Refining Co., 600 Fifth Avenue, New York, N.Y.

NOTES

1. If 100/130 (Green) octane fuel is not available, 115/145 (Purple) octane fuel may be used as an alternate. Never use 91/96 octane fuel.

2. Mix item 10 with naphtha and apply with a brush.

3. Precautions should be taken when using MIL-G-23827 and MIL-G-7711, since these greases contain chemicals harmful to painted surfaces.

4. Flap track rollers (pre-lubed sealed bearings). Pressure lubricate at 1000 hour inspection using MIL-G-23827 lubricating grease.

APPROVED ENGINE OILS

COMPANY	BRAND IDENTIFICATION
Delta Petroleum Company Incorporated	*Global Concentrate A
Enjay Chemical Company	*Paranox 160 and 165
Mobil Oil Corporation	RT-451, RM-173E, RM-180E
Shell Oil Company	*Shell Concentrate A Code 60068 *Aeroshell W120 *Aeroshell W80
Texaco Incorporated	*TX-6309 *Aircraft Engine Oil Premium AD120 *Aircraft Engine Oil Premium AD80
American Oil and Supply Company	*PQ Aviation Lubricant 753
Chevron Oil Company	*Chevron Aero Oil Grade 120
Humble Oil and Refining Company	*Esso Aviation Oil E-120 *Enco Aviation Oil E-120 *Esso Aviation Oil A-100 *Enco Aviation Oil A-100 *Esso Aviation Oil E-80 *Enco Aviation Oil E-80
Standard Oil Company of California	*Chevron Aero Oil Grade 120
Castrol Oils, Incorporated	***Castrolaero 113, Grade 1065 ***Castrolaero 117, Grade 1100
Champlin Oil and Refining Company	***Grade 1065 ***Grade 1100
Chevron Oil Company	***Chevron Aviation Oil 65 ***Grade 1100
Continental Oil Company	***Conoco Aero Oil 1065 ***Conoco Aero Oil 1100
Mobil Oil Corporation	***Avrex 101/1065 ***Avrex 101/1100
Phillips Petroleum Company	***Phillips 66 Aviation Engine Oil, Grade 1065 ***Phillips 66 Aviation Engine Oil Grade 1100

APPROVED ENGINE OILS (Continued)

COMPANY	BRAND IDENTIFICATION
Shell Oil Company	***AEROSHELL Oil 65 ***AEROSHELL Oil 100

*Ashless Dispersant Oils

***Straight Mineral Oils

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LAMP REPLACEMENT GUIDE

Location	Number
Aft Dome Light	303
Beacon, Rotating	G7740, 1939
Cabin Courtesy	1495
Cabin Door Warning	327
Cabin Reading	1495
Cabin Sign	327
Cockpit Dome	1524
Cockpit Red	307
Compass	327
Fuel Control Panel	327
Fuel Low Level Warning	327
Instrument Overhead	307
Instrument Post	327
Landing	4596
Landing Gear Position	327
Map	1524
Map (Control Column)	1495
Navigation, Wing	A4174
Navigation, Tail	A2064-1683
Nose, Taxi	4587
Outside Air Temperature	334
Oxygen Quantity	327
Stall Warning	313
Threshold	313
Wing, Ice	A7796A24